RECORDS CODE SHEET
5ND 4535 (Rev. 1/65)

NAVAL AVIATION SAFETY CENTER

GENERAL (Card No. 1)			SUPPLEMENTARY (Card No. 2)		
Bureau Number	147567	16-21	Weather		16-21
Reporting Custodian	154	22-24	Kind of Flight	1A2	22-24
Type Duty	J	25	Relative Wind - Direction		25
Major Command	1	26	Relative Wind - Velocity		26
Aircraft Damage	A	27	Special Attention	—	27
Aircraft Injury	G	28	Clearance	1	28
Time of Day	2	29	Maneuver prior to Occurrence		29
Carrier Hull Number	—	30	Number of other Aircraft		30
First Accident type	G	31-32	Primary Causal Factor	T	31-32
First Accident phase	47Ø	33-35	Altitude of Occurrence or Emergency	33Ø	33-35
Second Accident type	B1	36-37			
Second Accident phase	A2	38-40	Environmental Factors		38-40
Type of Operation	3	41-42			
Contributing Cause Factors	3	43-47	Non-Navy Injury ("R")		42
Pilot Factor, First		48-49	Number of "A" or "U" Injury		43-44
Pilot Factor, Second		50-51	Number of "B" Injury		46-47
Pilot Factor, Third		52-53	Number of "C" Injury		48-49
First other Personnel Factor		54-55	Number of "D" Injury		50-51
Second other Personnel Factor		56-57	Number of "E" Injury		52-53
Primary Major Material Factor	T	58	Number of "F" Injury		54-55
Secondary Major Material Factor		59	Number of "G" Injury	Ø1	56-57
Design		60	Location	47MM	62-68
Facilities		61			
Special Data & Cond.	18GF	62-65			
Special Data & Cond.	R	66			
Primary Cause	3	67			
1st Posit. of Pri. Causal Factor	T	68			
1st Possible Cause & Causal Factor		69-71			
2nd Possible Cause & Causal Factor		72-74			
No Personnel Card ("R")		80			

ACCIDENT DAMAGE	A	I. D. NO.	YR 6	MO Ø8	DAY 12	TYP 1	SEQ Ø1
ACCIDENT INJURY	G	Model	—	A	4	C	
FISCAL YEAR	7	Model Code	Ø4				

Don't Count / Enemy Action / Other Aircraft

PERSONNEL STATISTICS
(Card No. 3)

File Number → (b) (6) [redacted]

Name	Rank/Rate	Br Service	Age	Yrs Experience	Status	Position	Inj to Ind	Abandon A/C	Pilot Factor Involved	Trainer Utilization	Instr. Card	Total Time All models	All models 3 months	All Series This model	All Ser Ind 3 months	CV Landings	Instrument Hours	Nite Hours	Total Time Jet or this
03 ALVIS J H	2	1	L	J	A	1	G	2	2	11	3	34	Ø7	99	Ø7	-	Ø5	1Ø	97
04																			

Name
File Number →

IBM: PERSONNEL CODED ON REVERSE SIDE ☐

CLOSED 4 JAN 1967

CODED [illegible] REVIEWED [illegible] LOGGED [illegible] PUNCHED [illegible] VERIFIED [illegible] 08 NOV 1966

CODE SHEET REVIEWED BY CLASS DESK ANALYST [illegible] (Initials) 12-13-66 (Date)

#400

Alvis (b) (6) [redacted]

I.D. Number	GCI	Model	FY	Model Code
(b) (6) [redacted]	ØØ	-A4C	7	Ø4

Card 65

TA	TM	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment	Inj	No. of cds.	Closed	Seq. of Indiv
A	C	L8	JO	M8						G	1 1		Ø1

Card 65A

TA	TM									Inj	No. of cds.	Closed	Seq. of Indiv

Card 65B

TA	TM									Inj	No. of cds.	Closed	Seq. of Indiv

06 MAR 1967

Card 66

Aircraft	Mishap	Top at Scene	Egress	EJ Info	Egress Prob. Prior	Egress Prob During	Egress Prob After	Type Seat	Firing Method	Seat Pos	A/C Attit.	EJ. Alt.	Airspeed	Weight	Chute Op. Alt.	In Crash Area	Time in Water	Time in Raft	Vertebral Fractures	Ejec. Fat Cause	Injury	Combat Zone	Seq of Indiv
A	C	B	A	F				R	A	D	R		9		R						G		Ø1

Alvis [redacted]

I.D. Number	GCI	MODEL	FY	MODEL CODE
[redacted]	ØØ	-A4C	7	Ø4

TYPE A/C	TYPE MIS	WIND VEL	WAVE HEIGHT	WAVE INTERVAL	VISIBILITY	AIR TEMP	WATER TEMP	ALERT FACTOR	LOC SITE	SURV LEFT	LOC SURV	SURV FAC	FATALS (NO RESCUE)	TRG DATE	TRG DATE	TRG FACTOR	NO EVR	INJURY	CLONES	SEQ OF IND
A	C							EB		AAD		✓		PP	PP			G		Ø1

CARD 67

TIME OF DAY: MISHAP	TIME OF DAY: DEPART	TIME OF DAY: LOCATE	TIME OF DAY: ACC/ABAN.	LOC. DUTY RES. VEH.	RESCUE VEHICLE MODEL AND TYPE	NO TO BE RESCUED	NO RESCUED	BACK UP RES. VEH.	WATER TEMP	AIR TEMP	SEA COND	WEATHER	WIND VEL	RESCUE EQUIPMENT USED	TRG OF RES. TEAMS	COM. TECH AND EQUIP	RETRV TECH AND EQUIP	RES TEAM WORK	TYPE AIRCRAFT	TYPE MISHAP	TOPOGRAPHY	DISTANCE	TIME MIS. TO ALERT	ALERT PROB.	METHOD OF ALERT	TIME DEPART	DEP DELAY	INJURY	CLONES	SEQ OF IND
1	1	1	1	KL	Q	1	1	6				C							A	C	A	A	ØØ		EB	Ø		G		Ø1

CARD 68

TIME ALERT TO LOC.	PROB IN RTE.	FAIL TO RESPON	REASON	TIME LOC TO RCH.	LOCATOR MEANS	LOC PROB	SURV SIG. PROB	TYPE A/C	TYPE MIS	RESCUE PROBLEMS	RESCUE PROBLEMS	RESCUE PROBLEMS	RESCUE PROBLEMS	SURVIVOR PROBLEMS	SURV. COND	SURV. COND	TIME REM. TO ABD.	TOT TIME	RES REC.	SEQ OF IND
Ø1				Ø1	13			A	C						A	G	Ø1	Ø3		Ø1

CARD 69

MAINTENANCE AND MATERIAL CODE SHEET (Narrative brief on reverse)

SND 4621 (Rev. 11/65)

MAINTENANCE AND MATERIAL CARD NUMBER 33		CARD COL.
PRIMARY INVOLVED MATERIAL COMPONENT	T 9999	16-21
SECONDARY INVOLVED MATERIAL COMPONENT		24-29
POSSIBLE INVOLVED MATERIAL COMPONENT		32-37
SPECIAL DATA AND CONDITIONS	T45	40-42
SPECIAL DATA AND CONDITIONS	T15	44-46
SPECIAL DATA AND CONDITIONS	T36	48-50
SPECIAL DATA AND CONDITIONS		52-54
SPECIAL DATA AND CONDITIONS		56-58
SPECIAL DATA AND CONDITIONS		61-63
FIRST MAINT FLT/SPEC COMPONENT		65-68
CARD NUMBER	33	79-80

MAINTENANCE AND MATERIAL CARD NUMBER 34		
PRIMARY INVOLVED MATERIAL COMPONENT:		
MFG P/N		16-29
TOTAL HOURS	957	34-37
OVERHAUL ACTIVITY	9	39
NUMBER OF OVERHAULS	3	41
HOURS SINCE OVERHAUL	155	43-46
AIRCRAFT TOUR		48
AIRCRAFT FLIGHT HOURS SINCE ACCEPTANCE	M	59
AIRCRAFT FLIGHT HOURS SINCE LAST INSPECTION	155	50-53
DAYS SINCE LAST AIRCRAFT INSPECTION	85	55-57
TYPE LAST AIRCRAFT INSPECTION	44	61
MONTHS SINCE PAR/OVERHAUL	9	63-65
CARD NUMBER	34	79-80

MAINTENANCE AND MATERIAL CARD NUMBER 35		CARD COL.
POSSIBLE OR SECONDARY INVOLVED MATERIAL COMPONENT:		
MFG P/N		16-31
TOTAL HOURS		34-37
OVERHAUL ACTIVITY		39
NUMBER OF OVERHAULS		41
HOURS SINCE OVERHAUL		43-46
POWER PLANT MODEL NUMBER	J65W16	49-56
POWER PLANT SERIAL NUMBER	612332	58-64
DIR	2	68
CARD NUMBER	35	79-80

CAUSE FACTORS 3

COMPONENT NO. 1 T

COMPONENT NO. 2

DESIGN

POSSIBLE CAUSE FACTORS

COMPONENT

DESIGN

ACCIDENT DAMAGE 0

ACCIDENT INJURY G

LD. NO.

SPECIAL ATTN ("S")

Model Code

08 NOV 1966

FOR IBM

COORDINATOR	M&M CODING RECORD			PUNCHED	VERIFIED	FOR M&M FILMS ONLY			REPORT NUMBER	
									CUSTOMER	
DIVISION OFFICER	DATE CODED 10-4 aks	CODED BY	LOGGED	PUNCHED	VERIFIED	MODEL	SHIP	DATE	SERIAL NUMBER	

LEFT ON A CROSS
COUNTRY FLT FROM LEMORE CALIF TO ABILENE TEXAS. AFTER
COMPLETION OF INFLIGHT REFUELING IN ROUTE PLT INFORM-
ED OF WX FRONT IN HIS FLT PATH & ELECTED TO FLY
THROUGH IT. SOME ICING ON THE WINDSCREEN, BUT RPM
STEAM REMAINED NORMAL. SHORTLY AFTER PLT OBSERVED A
FAINT HIGH PITCH SQUEAL BUT DID NOT ASSOCIATE THE
SQUEAL WITH THE ENG. THERE WERE NO VIB & INST REMAIN-
ED NORMAL. THERE WAS A BUILD UP OF THE SQUEAL AND A
MODERATE EXPLOSION WAS EXPERIENCED. ALL ELECT PWR WAS
LOST, RAT EXTENDED, ELECT PWR RESTORED, ENG INST RPM
& EGT READ ZERO. PLT MOVED THE THROTTLE BACK & FORTH BUT RE-
LIGHT WAS UNSUCCESSFUL. NO FIELD TO LAND IN SO PLT
ELECTED TO EJECT. THE EJECTION SEAT SEPARATION AND
PARACHUTE OPENING WERE NORMAL. FAILURE ANALYSIS REVLD
ENG COMPRESS FAILURE DUE UNIDENTIFIED FOROBJ.

CARD NO. 70 80

3 6
3 7
3 8
3 9
4 0
4 1
4 2
4 3
4 4
4 5
4 6
4 7
4 8
4 9
5 0
5 1
5 2
5 3
5 4
5 5
5 6
5 7
5 8
5 9

70 80

SND 4621 (Rev. 11/65)(Back)

NAVAL AVIATION SAFETY CENTER
NAVAL AIR STATION
NORFOLK, VIRGINIA 23511

112/kn
Ser 1519
22 December 1966

SPECIAL HANDLING REQUIRED IAW OPNAVINST 3750.6 SERIES
FOR OFFICIAL USE ONLY

From: Commander, Naval Aviation Safety Center
To: Commanding Officer, Attack Squadron ONE ONE TWO

Subj: VA-112 AAR ser 3-66A concerning A-4C BuNo 148567 accident occurring 12 August 1966, pilot ALVIS

1. The subject report and all endorsements thereon have been reviewed. Commander, Naval Aviation Safety Center concurs with the comments and recommendations of the Aircraft Accident Board as modified by subsequent endorsers.

2. The cause of this accident has been recorded at the NAVAVNSAFECEN indicating MATERIAL (foreign object damage to engine compressor) as the single cause factor.

(b) (6)

By direction

Copy to:
NAVAIRSYSCOMHQ (AIR 404) (2)
COMNAVAIRPAC
COMEIGHT
COMFAIRALAMEDA
COMCVW-11
NAVPLANTREPO LONG BEACH
CO NAVAERORECOVPAC
CO NAVWPNEVALPAC

FOR OFFICIAL USE ONLY

3750
80/ 7080

29 NOV 1966

SPECIAL HANDLING REQUIRED IN ACCORDANCE
WITH OPNAVINST 3750.6 SERIES

FIFTH ENDORSEMENT on VA-112 AAR ser 3-66A concerning A-4C BuNo 148567 accident occurring 12 August 1966, pilot ALVIS

From: Commander Naval Air Force, U.S. Pacific Fleet
To: Commander, U.S. Naval Aviation Safety Center

Subj: VA-112 AAR ser 3-66A

Ref: (b) OPNAVINST 3750.6E

1. Forwarded, concurring in the comments and recommendations of the Aircraft Accident Board, as modified by the remarks contained in subsequent endorsements.

2. The following administrative errors are noted:

a. The enclosures are not attached in the proper sequence as referred to in the account in accordance with paragraph 46 of reference (b).

b. The first and second endorsements do not show complete copy distribution in accordance with sub-paragraph 48h of reference (b). By copy of this endorsement the Commanding Officer, NAVWPNEVALFAC Kirtland AFB and the Commanding Officer, ATKRON 112 are requested to ensure complete copy distribution of the first and second endorsements respectively.

(b) (6) [redacted]

By direction

Copy to:
NAVAIRSYSCOMHQ
COMNAVAVNSAFECEN (2)
COMEIGHT
COMATKCARAIRWING 11
COMFAIRALAMEDA
CO ATKRON 112
NAVPLANTREPO LBEACH
CO AEROSPACE RECOVERY FACILITY
CO NAVWPNSEVALFAC

ORIGINAL

FF1-2/3750
Ser 301B/4635
1 Nov 1966

SPECIAL HANDLING REQUIRED IN ACCORDANCE
WITH OPNAV INSTRUCTION P3750.6 (Series)

FOURTH ENDORSEMENT on CO, ATKRON 112 AAR, serial 3-66A, concerning A4C, BUNO 148567, Accident occurring 12 Aug 1966, Pilot ALVIS

From: Commander Fleet Air Alameda
To: Commander, U. S. Naval Aviation Safety Center
Via: Commander Naval Air Force, U. S. Pacific Fleet

Subj: ATKRON 112, AAR ser 3-66A; forwarding of

Ref: (a) CO, NAVWPNSEVALFAC ltr FF12/CSP:bcc 5000 Ser APP/1453 of 20 Oct 1966

1. Forwarded, concurring in the comments and recommendations of the Aircraft Accident Board, and in the remarks contained in the preceding endorsements.

2. Enclosure (1) to reference (a) concluded that the foreign object might be from a coupling.

(b) (6)

[redacted]

Chief Staff Officer

Copy to:
CO, NAVWPNSEVALFAC
NAVAIRSYSCOMHQ
COMNAVAVNSAFECEN (2) (Airmail direct)
COMFAIRMIT
COMATKCARAIRWING 11
CO, ATKRON 112
NAVFLASTREPO LONG BEACH
CO, NAVAEROREQVFAC

ORIGINAL

U. S. NAVAL WEAPONS EVALUATION FACILITY
Kirtland Air Force Base
Albuquerque, New Mexico 87117

FF12/CSP:bcc
5000
Ser AFF/ 1453
20 October 1966

From: Commanding Officer, U. S. Naval Weapons Evaluation Facility
To: Commander, U. S. Naval Aviation Safety Center, U. S. Naval Air Station, Norfolk, Virginia 23511

Subj: VA-112 Aircraft Accident Report 3-66A

Encl: (1) Metallurgical report on foreign object suspected of causing engine failure on subject accident

1. The attached metallurgical report is forwarded for inclusion as enclosure (15) to subject Aircraft Accident Report.

2. Further investigation by the Aircraft Accident Investigation Board and by the Douglas Aircraft Company, Long Beach, has failed to reveal the nature or source of this foreign object.

R. W. Jackson
R. W. JACKSON

Copy to:
ATKRON 112
CO Naval Aerospace Recovery Facility, El Centro, Calif.
COMATKCARAIRWING 11
COMEIGHT
COMFAIRALAMEDA
COMNAVAIRPAC
NAVAIRSYSCOM
NAVPLANTREPO, DAC, Long Beach, Calif.

AAC 148567

MATERIALS LABORATORY TEST REPORT
(DD NASA 4730/12 (REV. 2-62))

U. S. NAVAL AIR STATION
ALAMEDA, CALIFORNIA

O-341-HL
REPORT NO. 166-66

TO: Weapons Engineering Group, Code 331

VIA:

ATTN: (b) (6)

ACTIVITY REQUESTING: Weapons Engineering Group TEI 4763

DATE: 23 September 1966

MATERIAL TESTED: Unknown metal parts

PART NUMBER	SPECIFICATION	GRADE	CLASS
Engine serial 612332			
STOCK NUMBER	AIRCRAFT MODEL	BUREAU NUMBER	
	A-4C J65-W16A	148567	

TEST PERFORMED

1. X-ray spectrographic analyses.

TEST RESULTS

1. Request from an accident investigation for the identification of the metal parts are shown in the Table I.

TABLE I

VA-112 AHR 3-66A
ENCLOSURE 11 G

SAMPLES	IDENTIFICATION NOMENCLATURE	IDENTIFICATION
1. Outer steel shell	- Steel Casing	- 431 Stainless steel
2. Steel washer	- Washer	- 431 Stainless steel
3. Aluminum furrule	- Aluminum Insert	- Similar to 6061 T-4 Aluminum alloy
4. Welded material on washer	- Brazed Tubing	- Primarily copper with some silver

2. Conclusion: The evidence indicates that the parts might be from a coupling.

SPECIAL HANDLING REQUIRED IN ACCORD PARA 66 OPNAVINST 3750.6E

TESTED: /S/ H. LEE

APPROVED: /S/ F. G. SCHRADER

CC:

ENCLOSURE (15)

FF12/CVW-11/21:bp
3750
Ser: 463A
13 October 1966

ORIGINAL

THIRD ENDORSEMENT on VA-112 AAR ser 3-66A, 12 Aug 66, A4C BUNO 148567
Pilot ALVIS

From: Commander Attack Carrier Air Wing ELEVEN
To: Commander Naval Aviation Safety Center
Via: (1) Commander Fleet Air Alameda
(2) Commander Naval Air Force, U. S. Pacific Fleet

Subj: Attack Squadron ONE ONE TWO Aircraft Accident Report; forwarding of

1. Forwarded, concurring in the conclusions/recommendations of the board and former endorsements, pending proper identification of the foreign object by the supplemental report.

2. It is regretted that the forwarding of this endorsement was delayed due to my absence.

E. R. Williams

E. R. WILLIAMS

Copy to:
NAVAVNSAFECN
NAVAIRSYSCOMHQ
CO, NWEF
COM EIGHT
COMNAVAIRPAC
COMFAIRALAMEDA
NPRO DAC LBEACH
CO, NAVAERORELOT
CO, VA-112

ORIGINAL

VA-112/JHA/mls
3750
Ser: 712
26 September 1966

SECOND ENDORSEMENT on VA-112 AAR ser 3-66A, 12 Aug 1966, A4C BuNo. 148567 Pilot ALVIS

From: Commanding Officer, Attack Squadron ONE ONE TWO
To: Commander, Naval Aviation Safety Center
Via: (1) Commander, Attack Carrier Air Wing ONE ONE
(2) Commander, Fleet Air Alameda
(3) Commander, Naval Air Force, Pacific

Subj: Attack Squadron ONE ONE TWO Aircraft Accident Report Serial 3-66A

1. Forwarded.

2. All pilots of this squadron have been rebriefed on engine operating limitations and the importance of reporting any limitations exceeded. Maintenance personnel have been briefed on proper procedures for correcting discrepancies concerning engine limitations which have been exceeded.

3. NATOPS procedures concerning ejection altitudes have been reviewed with all pilots.

4. The importance of FOD prevention has been reemphasized to all pilots and maintenance personnel.

5. The Medical Officer's signature is now affixed to page 3 of OPNAV FORM 3750-1. The Medical Officer's Report was mailed to the senior member of the Accident Board at NWEF via Air Mail Special Delivery on 18 September 1966.

6. The pilot has not been involved in any previous accidents.

7. A COMNAVAIRPAC accident prevention survey was completed at this command on 14 July 1966.

J. H. Alvis
J. H. ALVIS

Copy to:
CO NWEF
COMEIGHT
BUWEPS
NPRO DAC LBEACH
NAVAL AEROSPACE RECOVERY FACILITY

FF12/AT:hnm
3750
Ser AA/ [illegible]
23 SEP 1966

FIRST ENDORSEMENT on VA-112 AAR ser 3-66A, 12 Aug 1966, A4C BuNo. 148567, Pilot ALVIS

From: Commanding Officer, U. S. Naval Weapons Evaluation Facility, Kirtland Air Force Base, Albuquerque, New Mexico 87117
To: Commander, Naval Aviation Safety Center
Via: (1) Commanding Officer, Attack Squadron One One Two
(2) Commander, Attack Carrier Air Wing One One
(3) Commander, Fleet Air, Alameda
(4) Commander, Naval Air Force, Pacific

Subj: Attack Squadron One One Two Aircraft Accident Report Serial 3-66A

1. Forwarded, concurring in the conclusions and recommendations of the Aircraft Investigation Board.

2. It is noted that the Medical Officer's Report is not attached to the basic correspondence and that the medical officer's signature is not affixed on page 3. The Medical Officer's Report will be forwarded upon receipt at this command. The statement of the Air Force Flight Surgeon who examined CDR ALVIS is considered acceptable although not signed by the attending physician.

R. W. Jackson

R. W. JACKSON

Copy to:
COM EIGHT
NFRO DAC LBEACH
CO NAVAERORELOV

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SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

717

From: Commanding Officer, Attack Squadron ONE ONE TWO 3 OCT 1966

To: Commander, U S Naval Aviation Safety Center

Subj: Supplementary Accident Data concerning VA-112 AAR serial 3-66A, A4C BUNO 148567 occurring 12 August 1966, Pilot ALVIS

submission of

Ref: (a) NASC ltr ser: 50/A34 of 19 SEP 1966

Encl: (1) Supplementary Accident Data Form for subject accident pages 1 through 5
(2) Reproduction of subject pilot's log covering month of accident and two (2) preceding calendar months
(3) [redacted]
(4) [redacted])

1. As requested by reference (a), the enclosures are forwarded.

J.H. Alvis
J.H. ALVIS

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SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

SUPPLEMENTARY ACCIDENT DATA

In addition to answering the following questions, enclose a duplicate of the pilot's log covering the month in which the accident occurred as well as the preceding two calendar months.

1. Date of mishap: year 1966 month AUG day 12
2. Aircraft model A4C
3. Bureau Number of aircraft 148567
4. Reporting custodian VA-112
5. Pilot file number 521212
6. Branch of service: Marine ____ Navy X
7. Readiness Attack Carrier Air Wing (RCVW) trained? Yes X No ____

   If Yes, date completed 7/28/65

   RCVW Squadron VA-125, NAS LEMOORE, CALIF.
8. Percentage of training completed if in a formal training status NA
9. Length of time (mo.) in present squadron 12½
10. Pilot currently qualified in following aircraft (model and series)

    A4C

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11. a. Specify training time (hrs.) with reference to date of mishap as follows:

	WST		OFT		CPT		LINK
	This model	All other models	This model	All other models	This model	All other models	
Previous 12 months	NA	NA	2	0	0	0	0
Previous 6 months	"	"	2	0	0	0	0
Previous 3 months	"	"	2	0	0	0	0
Previous 1 month	"	"	0	0	0	0	0

If training time in this model during previous three months was less than 3 hours in Weapons Systems Trainer (WST), Operational Flight Trainer (OFT), or Cockpit Training (CPT), indicate reason by checking appropriate spaces in part b.

b.

	WST	OFT	CPT	LINK
(1) Pilot deployed	NA			
(2) Trainer not in area (station _____)				
(3) Down for maintenance		X		
(4) Not available due to trainer schedule		X		
(5) Lack of trainer personnel				
(6) Not available due to pilot's schedule		X		X
(7) Other reasons (specify):				
_____				
_____				

12. If flight was a maintenance test flight, was pilot designated by Commanding Officer as qualified maintenance test pilot? Yes ___ No ___
Flight was not a test flight; however, pilot is designated test pilot

13. Commanding Officer's rating of pilot's ability: Superior X

Average ___ Below Average ___

14. Length of time (mo.) Commanding Officer

a. Has been aboard 12+

b. Has been in command of this squadron (1)

15. Estimate of total time (hrs.) involved in accident investigation by:

a. Accident board members 738

b. Wreckage recovery and salvage 10 (10 man working party)

c. Supporting Personnel 320 (USAF Air Police for security)

16. Best estimate of operation and maintenance funds expended for investigation and salvage (e.g. civilian salaries, O&R cost, equipment rental, etc.) $ Unknown, U.S. Air Force equipment, vehicles, etc. utilized. O & R cost unknown. Attach itemized breakdown.

17. Did funding cause a delay in wreckage recovery? Yes ___ No X

If Yes, how long? ___ (days)

18. Was equipment for wreckage recovery adequate? Yes X No ___

If No, list deficiencies. ___

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SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

19. Number of accident board members 5

20. Specify number of accident board members who have attended the following schools :

a. Safety Officer's School, USC 0

b. Safety Officer's School, Monterey 0

c. Safety Center 5-day ASO School 1

d. Monterey Baccalaureate Curriculum Safety Course 0

e. _____

f. None of the above _____

21. Specify by checking if the:

	Manufacturer's Technical Reps			Manufacturer's Engineers		
	Requested	were Available	Utilized	Requested	were Available	Utilized
Airframe	Yes	Yes	Yes	No	Yes	No
Engine	Yes	Did not arrive due to transportation difficulty		No	UNK	No
Other						

22. Was pre-accident plan adequate? Yes X No ___

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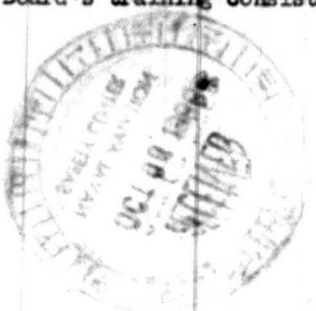
23. Did previous training adequately prepare the accident board for its duties?

Yes X No ____

(If answer to questions 22 or 23 is No, please make comments)

COMMENTS:

The majority of this Accident Board's training consisted of experience on previous Accident Boards.



24. Has the command submitted any previous recommendation that included factors similar to those associated with this mishap? Yes ____ No X

COMMENTS:

MONTH JUNE 1966 YEAR 1966

CODES: A—Automatic C—CCA F—ADF G—GCA I—ILS L—LF range O—OMNI R—Radar T—TACAN S—Simulated J—Jet

Day	Aircraft Model	Aircraft Serial Number	Kind of Flight Code*	Total Pilot Time	First Pilot	Co-Pilot	A/C Comdr.	Special Crew Time	Instrument Time Act	Instrument Time Sim	Night Time	Landings Carrier	Landings Carrier	Landings Carrier	Landings F	Landings Sea/Land	Catapult	Instr. Appr. Completed	Instr. Appr. Completed	Instr. Appr. Completed	Remarks
1	A4C	148567	1A71/72	1.6	1.6											1					
1	"	147828	1A3	0.6	0.6										10						
1	"	147688	[illegible]	1.8	1.8				0.2	0.3	1.8					1		2 2	R 6	5	
2	"	147714	1A71	2.1	2.1											1					2 MK-76
3	"	147749	1A4	1.6	1.6							1	2								NAS → CVS-20
3	"	147749	1A4	0.2	0.2							1	1				1				CVS-20
3	"	147749	1A4	0.8	0.8					0.2						1	1	1 1	R 6	5	CVS-20 → NAS
12	"	147783	1A13	0.9	0.9											1					NAS – NFL
13	"	147688	1A71	0.5	0.5											1					
13	"	147749	1A71/72	0.9	0.9											1					
14	"	147783	1A71/72	0.7	0.7											1					6 MK-76 100 - 20 mm
14	"	147783	1A71/72	0.8	0.8											1					6 MK-76 100 - 20 mm
15	"	147492	1A71	0.7	0.7											1					6 MK-76 30°/45°
16	"	148567	1A71/72	1.0	1.0											1					6 MK-76 3/30°/3/45°/10
17	"	147783	1A71/72	0.8	0.8											1					
17	"	147828	1A71/72	0.8	0.8											1					6 MK-76 2 - 2.75" FFAR
18	"	147783	1A71/72	0.9	0.9											1					
20	"	147714	1A01/04	1.0	1.0											1					4 MK-76 2 MK-106
20	"	147783	1A01/04	0.8	0.8											1					
TOTAL THIS PAGE				18.5	18.5				0.2	0.5	1.8	2	3		10	16	2	CERTIFIED A CORRECT RECORD			
BROUGHT FORWARD		3382.4		320.3	315.8	4.5			17.3	13.2	59.4	1/8	1	22	55	55	1/43	Pilot			
TOTAL TO DATE																		Approved			
*See page 2 for codes.		TOTAL ACCUM. PILOT TIME		TOTALS, THIS FISCAL YEAR					TOTALS, THIS FISCAL YEAR									C.O. or authorized deputy			

DUPLICATE [redacted] (b)(6) LCDR USN

DUPLICATE [redacted] (b)(6) LCDR USN

MONTH June YEAR 1966

CODES: A—Automatic, C—CCA, F—ADF, G—GCA, I—ILS, L—LF range, O—OMNI, R—Radar, T—TACAN, S—Simulated, J—Jet

DAY	AIRCRAFT MODEL	AIRCRAFT SERIAL NUMBER	KIND OF FLIGHT CODE*	PILOT TIME: TOTAL PILOT TIME	PILOT TIME: FIRST PILOT	PILOT TIME: CO-PILOT	PILOT TIME: A/C COMDR.	SPECIAL CREW TIME	INSTRUMENT TIME: ACT	INSTRUMENT TIME: SIM	NIGHT TIME	LANDINGS: CARRIER 1	LANDINGS: CARRIER 2	LANDINGS: CARRIER 3	LANDINGS: F	LANDINGS: SEA/LAND	CATAPULT	INST. APPR. COMPLETED 1	INST. APPR. COMPLETED 2	INST. APPR. COMPLETED 3	REMARKS
BROUGHT FORWARD				18.5	18.5				0.2	0.5	1.8	2	3		10	16	2				~~[illegible]~~ RKC
21	A4C	147714	1A75	1.0	1.0											1					3 MK-86 ~~2 ZUNI~~
21	"	147783	1A75	1.0	1.0											1					2 MK-81 ~~2 MK-82~~
22	"	147714	1A71/75	1.1	1.1											1					4 MK-76 2/30° 2/45°
22	"	147688	1A71	0.9	0.9											1					
23	"	148567	1A71	0.9	0.9											1					6 MK-76
23	"	148567	1A71/75	1.3	1.3											1					3 MK-76
23	"	148567	1A06/64	0.9	0.9											1					4 MK-76 2 MK-106
24	"	147783	1A06/64	0.6	0.6											1					2 MK-76 1 MK-106
24	"	147783	1A15	0.7	0.7											1					NFL-NLC
28	"	147796	1A03	2.5	2.5					0.2						1		1 1	R G	S S	NO DROP
29	"	147796	3A71	1.8	1.8											1		1 1	R G	S S	6 MK-76 3-30°/3-20°
29	"	147796	1A03	2.5	2.5											1					1 MK-76 C/S
30	"	147833	1A15	2.8	2.8											1		1 1	R G	S S	
TOTAL THIS PAGE				36.5	36.5				0.2	0.9	3.6	2	3		10	29	2				
BROUGHT FORWARD		3382.4		320.3	315.8	4.5			17.3	13.2	57.4	1/76	1	22	55	55	1/43				
TOTAL TO DATE		3418.9		356.8	352.3	4.5			17.5	14.1	63.0	1/80	4	22	65	84	1/45				
*See page 2 for codes.		TOTAL ACCUM. PILOT TIME		TOTALS, THIS FISCAL YEAR					TOTALS, THIS FISCAL YEAR												

DUPLICATE [redacted] (b)(6) LCDR

DUPLICATE [redacted] (b)(6) LCDR

CERTIFIED A CORRECT RECORD

Pilot

Approved

C.O. or authorized deputy

Pilot time report submitted through last day of this month by ______ (initials)

MONTH JULY YEAR 1966

DAY	AIRCRAFT MODEL	AIRCRAFT SERIAL NUMBER	KIND OF FLIGHT CODE	PILOT TIME: TOTAL PILOT TIME	FIRST PILOT	CO-PILOT	A/C COMDR	SPECIAL CREW TIME
1	A4C	147833	1AN4	1.5	1.5			
7	"	147472	1N	2.4	2.4			
11	"	149489	1A15	2.2	2.2			
12	"	147749	1A15	2.4	2.4			
13	"	147796	3A15	2.0	2.0			
15	"	148567	1A15	2.0	2.0			
18	"	147796	1A11	1.9	1.9			
20	"	147749	1A15	2.1	2.1			
22	"	147796	1A16	1.0	1.0			
22	"	147796	1A16	0.8	0.8			
28	"	147783	3A15	2.1	2.1			
TOTAL THIS PAGE				20.4	20.4			
BROUGHT FORWARD		3418.9		–	–			
TOTAL TO DATE		3439.3		20.4	20.4			
*See page 2 for codes.		TOTAL ACCUM. PILOT TIME		TOTALS, THIS FISCAL YEAR				

DUPLICATE [redacted] (b)(6) LCDR USN

CODES: A–Automatic, C–CCA; F–ADF, G–GCA, I–ILS; L–LF range, O–OMNI, R–Radar; T–TACAN, S–Simulated, J–Jet

INSTRUMENT TIME: ACT	SIM	NIGHT TIME	LANDINGS: CARRIER				FIELD/LAND		APPROACHES			REMARKS
	0.2						1		1 1	[illegible]	3 3	LAK-06 30°
							1					
	0.2						1		1 1	[illegible]	3 3	LOLVA 1.5
							1					RADAR (2.0)
		2.0					1					RADAR (1.5)
	0.2						1		1 1	[illegible]	3 3	LOLVL (1.5) RADAR (0.2)
							1		2 2	[illegible]	3 3	
	0.2						1		1 1	[illegible]	3 3	LOLVL (1.5)
0.3							1		1 1	[illegible]	A	
	0.2						1		1 1	[illegible]	3 3	
		2.1					1					
0.3	1.0	4.1					11					CERTIFIED A CORRECT RECORD
–	–	–					–					Pilot
0.3	1.0	4.1					11					Approved
TOTALS, THIS FISCAL YEAR												C.O. or authorized deputy

DUPLICATE [redacted] (b) (6) LCDR USN

Pilot time report submitted through last [illegible] day of this month [illegible]

MONTH AUGUST YEAR 1966

CODES: A—Automatic, C—CCA, F—ADF, G—GCA, I—ILS, L—LF range, O—OMNI, R—Radar, T—TACAN, S—Simulated, J—Jet

DAY	AIRCRAFT MODEL	AIRCRAFT SERIAL NUMBER	KIND OF FLIGHT CODE*	PILOT TIME: TOTAL PILOT TIME	FIRST PILOT	CO-PILOT	A/C COMDR.	SPECIAL CREW TIME	INSTRUMENT TIME: ACT	SIM	NIGHT TIME	LANDINGS: CARRIER			FC	SEA/LAND	CATAP	STD INST. APPR. COMPLETED: No.	TYPE	S	REMARKS
2	A4C	147783	1A71	1.6	1.6					0.2						1		1, 1	A, G	S, S	2/20° SIM. BULLPUP
3	"	147796	3A71	2.0	2.0					0.2	2.0					1		1, 1	A, G	S, S	2 DRY PLUGS LMK-76 30°
4	"	145077	1A14	1.0	1.0					0.2						1		1, 1	A, G	S, S	
5	"	147783	1A71	1.4	1.4					0.2						1		1, 1	A, G	S, S	.5D LMK-76 1 DRY 1 WET 1-30°
9	"	147783	1A7	1.4	1.4					0.2						1		1, 1	A, G	S, S	1 BULLPUP
10	"	147783	1A7	1.6	1.6					0.2						1		1, 1	A, G	S, S	1 DRY 4 WET 1 BULLPUP
11	"	147783	3A15	1.9	1.9					0.4	1.9					1		2, 2	A, G	S, S	LOLVL 0.6
11	"	150385	1A15	1.8	1.8					0.2						1		1, 1	R, G	S, S	LOLVL (1.5)
12	"	147783	1A15	1.7	1.7					0.2						1		1, 1	R, G	S, S	LOLVL (0.5)
12	"	148567	1A81	2.2	2.2				0.3												
17	"	147714	1A15	2.3	2.3					0.2						1		1, 1	R, G	S, S	LOLVL (1.0)
18	"	145077	3A15	1.8	1.8						1.8					1		1, 1	R, G	S, S	LOLVL (1.2)
19	"	147714	1A15	1.7	1.7					0.2						1		1, 1	R, G	S, S	LOLVL (0.5)
22	"	147674	1A81	1.9	1.9					0.5	0.3					1		1, 1	R, G	S, S	
23	"	148589	3A3	0.6	0.6						0.5				5						
23	"	148589	3A3	0.5	0.5						0.5				7						
24	"	147783	3A3	0.5	0.5						0.5				6						
24	"	147783	3A3	0.5	0.5						0.5				8						
25	"	147783	3A3	0.5	0.5						0.5				6						
25	"	147783	3A3	0.5	0.5						0.5				6						
TOTAL THIS PAGE				27.4	27.4				0.3	2.9	9.0				38	14					
BROUGHT FORWARD		3439.3		20.4	20.4				0.3	1.0	4.1				-	11					
TOTAL TO DATE		3466.7		47.8	47.8				0.6	3.9	13.1				38	25					
*See page 2 for codes.		TOTAL ACCUM. PILOT TIME		TOTALS, THIS FISCAL YEAR					TOTALS, THIS FISCAL YEAR												

DUPLICATE [redacted] (b)(6)

DUPLICATE [redacted] (b) (6) ...WARD

Pilot

Approved

( ) or authorized deputy

Pilot time submitted through last (or ___) day of this month: none (initials)

AIRCRAFT ACCIDENT REPORT
OPNAV FORM 3750-1 (Rev. 3-63) Page 1

SPECIAL HANDLING REQUIRED in accordance Para. 66, OPNAV INSTRUCTION 3750.6, effective edition

OPNAV REPORT 3750-1

PART I GENERAL

SECTION A. IDENTIFICATION

1. AIRCRAFT ACCIDENT BOARD APPOINTED BY CO, Naval Weapons Evaluation Fac	2. SERIAL NO. VA-112,3-66A	3. DTG (LOCAL) OF MISHAP 121757T Aug	4. MODEL AIRCRAFT A-4C	5. BUREAU NUMBER 148567
6. TO: Commander, Naval Aviation Safety Center		9. LOCATION OF MISHAP 4.3 NMI NW of Melrose, N.M.		10. DAMAGE ALPHA
7. VIA:	8.	11. TIME OF DAY Day	12. TIME IN FLIGHT 2+13	13. FLIGHT CODE 1A2
CO, USNWEF		14. CLEARED FROM NAS Lemoore, Cal. TO Dyess AFB, Texas		
CO, ATKRON ONE ONE TWO				
COMATKCARAIRWING ONE ONE				
COMFAIR ALAMEDA		15. TYPE CLEARANCE IFR	16. AIRSPEED 250 KIAS "P"	17. A/C WEIGHT 14,300 lb
COMNAVAIRPAC				
18. BRIEF DESCRIPTION OF MISHAP Flameout at FL330, 2 unsuccessful relights, ejection.			19. ELEVATION AT TIME OF MISHAP FL330	TERRAIN 29,000 ft

20. LIST MODEL, BUNO, REPORTING CUSTODIAN AND DAMAGE CLASSIFICATION OF ANY OTHER A/C INVOLVED (Complete OPNAV Form 3750-1 for each A/C)

NA

SECTION B. CONTRIBUTING FACTORS

✓	FACTOR	✓	FACTOR	✓	FACTOR
	1. PILOT ERROR IN TECHNIQUE/JUDGMENT		9. SERVICING PERSONNEL		17. WEATHER
	2. PILOT DEVIATION FROM NATOPS PROCEDURES		10. LANDING SIGNAL OFFICER		18. DESIGN AIRCRAFT
	3. PILOT INCORRECT OPERATION OF A/C SYSTEM		11. OTHER PERSONNEL (Specify)		19. DESIGN CREW EQUIPMENT
	4. PILOT OTHER (Specify)		12. ADMINISTRATIVE		20. DESIGN OTHER (Specify)
	5. CREW		13. FACILITIES-RUNWAY OVERRUN TAXIWAY FLIGHT DECK		21. ROLLING/PITCHING DECK ROUGH SEAS
	6. MAINTENANCE PERSONNEL		14. FACILITIES-NAV AIDS LANDING AIDS (GCA, CCA, ILS, MIRROR)	X	22. MATERIAL FAILURE/MALFUNCTION
	7. MAINTENANCE SUPERVISORY PERSONNEL		15. FACILITIES-CATAPULT ARRESTING GEAR (Ship or field)		23. UNDETERMINED
	8. SUPERVISORY OTHER (Specify)		16. FACILITIES OTHER (Specify)	S	24. OTHER (Specify) FOD (Compressor Fail)

SECTION C. PERSONNEL DATA

1. NAME (LAST, FIRST, & MIDDLE INITIAL)	2. [illegible]	3. [illegible] SERVICE NO.	4. [illegible]	5. [illegible]	6. AGE	7. [illegible]	8. BILLET	9. POSITION	10. [illegible]
PILOT (AT CONTROLS AT TIME OF MISHAP) ALVIS, JOHN H.	CDR	[redacted]		USN	[redacted]	15	CO	CKPT	G
CO-PILOT (IDENTIFY & SUBMIT SEPARATE PAGE 1) NA									

PILOT EXPERIENCE IN HOURS

ITEM			ITEM		
11. ALL MODELS		3457	17. CV LANDINGS DAY/NIGHT	ALL	385/107
				IN MODEL	280/71
12. ALL MODELS IN LAST 12 MONTHS		358	18. FCLP LANDINGS LAST 6 MONTHS DAY/NIGHT	ALL	10/0
				IN MODEL	10/0
13. ALL MODELS IN LAST 3 MONTHS		74	19. INSTRUMENT HOURS LAST 3 MONTHS ACTUAL/SIMULATED	ALL	1/4
				IN MODEL	1/4
14. ALL SERIES THIS MODEL	A/C	1270	20. NIGHT HOURS LAST 3 MONTHS	ALL	10
	OFT/CPT	11/2		IN MODEL	10
15. ALL SERIES THIS MODEL LAST 12 MONTHS	A/C	358	21. TOTAL HOURS IN JETS (if jet mishap) HELOS (if helo mishap)	JET	1933
	OFT/CPT	2/0			
16. ALL SERIES THIS MODEL LAST 3 MONTHS	A/C	74	22. LAST PRIOR FLIGHT ALL SERIES THIS MODEL	DATE	8/12/66
	OFT/CPT	2/0		DURATION	1.7
23. DATE/GRADE LAST NATOPS STANDARDIZATION CHECK	SAT	5/27/66	24. TYPE INSTRUMENT CARD		SPEC

OTHER PERSONNEL

25. NAME (LAST, FIRST, & MIDDLE INITIAL)	26. SNA	27. RANK/RATE	28. BRANCH OF SERVICE	29. FILE/SERVICE NO.	30. UNIT	31. INJURY	32. BILLET	33. POSITION
NA								

AIRCRAFT ACCIDENT REPORT
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SPECIAL HANDLING REQUIRED in accordance with Para. 66, OPNAV INSTRUCTION 3750.6, effective edition

OPNAV REPORT 3750-1

PART II MAINTENANCE, MATERIAL, AND FACILITIES DATA

A. A/C HISTORY

1. DATE OF MANUFACTURE	2. FLIGHT HRS. SINCE ACCEPTANCE	3. NO. OF PAR/OVERHAUL	4. MONTHS SINCE LAST PAR/OVERHAUL	5. FLT. HRS SINCE LAST PAR/OVERHAUL	6. LAST/PAR OVERHAUL ACTIVITY	7. TYPE OF LAST CHECK PERFORMED	8. FLIGHT HOURS SINCE LAST CHECK	9. DAYS SINCE LAST CHECK
9/12/61	1589.9	3	3	155.2	ALA	MAJOR	155.2	83

B. ENGINE HISTORY

	1. ENGINE MODEL	2. ENGINE SERIAL NUMBER	3. FLIGHT HRS. SINCE ACCEPTANCE	4. NUMBER OF OVERHAULS	5. WAS DIR. REQUESTED?	6. FLT. HRS. SINCE LAST OVERHAUL	7. LAST OVERHAUL ACTIVITY	8. TYPE OF LAST CHECK PERFORMED	9. FLIGHT HOURS SINCE LAST CHECK	10. DAYS SINCE LAST CHECK
(1)	J65W16	612332	956.8	3	YES	155.2	ALA	MAJOR	155.2	83
(2)										
(3)										
(4)										

C. COMPONENT HISTORY

	1. COMPONENT INVOLVED NOMENCLATURE	2. MANUFACTURERS PART NUMBER	3. TOTAL HRS ON PART	4. NO OF OVERHAULS	5. HOURS SINCE LAST OVERHAUL	6. OVERHAUL ACTIVITY	7. WAS DIR. REQUESTED?	8. SER. NO. FUR/AMFUR
(1)								
(2)								
(3)								
(4)								

D. INCIDENTS & GROUND ACCIDENTS

1. PARTS REPAIRED		3. DIRECT MANHOURS INVOLVED	2. PARTS REPLACED	
PART NUMBER	NOMENCLATURE		PART NUMBER	NOMENCLATURE

E. ENGINE FAILURES

JET ENGINE FLAMEOUT (Include intentional securing to prevent engine damage)

AT TIME OF FLAMEOUT	1. ALTITUDE	2. IAS	3. RPM	4. EGT	5. MANEUVER AT TIME OF FLAMEOUT	6. FUEL FLOW	7. ATTITUDE
	FL330	250KT	96%	610°C	Level Flight	UNK	Level

8. G FORCES	9. RELIGHT	10. ALTITUDE	11. IAS	12. MAX EGT	13. FUEL CONTROL	14. NO. RELIGHT ATTEMPTS
1G	[X] ATTEMPTED [ ] ACCOMPLISHED	15,000 Ft 20,000 Ft	190 KTS	0	[ ] PRIMARY [X] MANUAL	2

INTENTIONAL SECURE	15. ENGINE SYMPTOMS	16. CAUSE OF SYMPTOMS

RECIPROCATING ENGINE FAILURE

17. ALTITUDE	18. IAS	19. ATTITUDE	20. RPM	21. MAP	22. TORQUE/BMEP	23. FUEL FLOW PRESSURE	24. OIL PRESSURE

INTENTIONAL SECURE	25. ENGINE SYMPTOMS	26. CAUSE OF SYMPTOMS

F. OTHER REPORT

IDENTIFY OTHER REPORTS CONCERNING THIS MISHAP

1. AMFUR SERIAL NUMBER _____
2. DIR MESSAGE REQUEST DATE-TIME-GROUP 181440Z Aug 66 . *Info NASC on DIR request. See para. 38 OPNAVINST P3750.6E*
3. OTHER NAVAIRSYSCOMREPAC 222223Z Aug 66 Priority DIR Control #3047-67
4. ATKRON ONE ONE TWO 130712Z Aug 66 Prelim & Supp Mst Rpt of A/C Accident
5. NWEP 192041Z Aug 66 Investigation Extension

AIRCRAFT ACCIDENT REPORT
OPNAV FORM 3750-1 (Rev. 3-63) Page 3

SPECIAL HANDLING REQUIRED IN accordance with
Para. 66, OPNAV INSTRUCTION 3750.6, [illegible] edition

OPNAV REPORT 3750-1

6. SHIPS DATA

1. EQUIPMENT INVOLVED ☐ CATAPULT ☐ ARRESTING GEAR | 2. PRESSURE SETTING | 3. WIND OVER DECK | 4. RELATIVE WIND | 5. APPROACH/END SPEED

6. MARK NUMBER | 7. MODEL NUMBER | 8. LOCATION ON SHIP | 9. LAUNCHING BRIDLE AND BRIDLE ARRESTER

10. CATAPULT/ARRESTING GEAR BULLETINS OR NOMOGRAMS USED

11. This portion shall be completed whenever (1) an aircraft accident involves arresting gear barrier and/or barricade equipment, or (2) an aircraft accident involves malfunctioning of arresting gear, barrier and/or barricade equipment. Incidents or routine damage to cables, weldings and other expendable equipment need not be reported herein.

ENGAGED	12. DECK RUNOUT (FEET)	13. RAM TRAVEL (INCHES)	14. CONTROL VALVE SETTINGS: CONSTANT PRESSURE — DOME (P.S.I.)	CONSTANT PRESSURE — RATIO	CONSTANT RUN-OUT (WT. LBS.)	15. ACCUMULATOR PRESSURE (PSI)	16. COMMENTS (for cable failures specify no. landings and months in service)
DECK PENDANT							
DECK PENDANT							
BARRIER/BARRICADE							

7. DEPLOYMENT

FOR ACCIDENTS ABOARD CARRIERS (Complete on pilot)

1. DATE DEPLOYED CONUS | 3. DAY HOURS/LANDINGS SINCE DEPLOYMENT | 4. DAY HOURS/LANDING LAST 90 DAYS

2. NO. DAYS OPERATING PERIOD

5. INST. HOURS LOGGED SINCE DEPLOYMENT ACTUAL/SIMULATED | 6. NIGHT HOURS/LANDINGS SINCE DEPLOYMENT | 7. NIGHT HOURS/LANDINGS LAST 90 DAYS

8. WEATHER

WEATHER AT SCENE OF MISHAP

1. CEILING | 2. VISIBILITY | 3. RELATIVE WIND DIRECTION AND VELOCITY | 4. TEMPERATURE RUNWAY / OUTSIDE AIR | 5. DEW POINT | 6. ALTIMETER SETTING

7. OTHER WEATHER CONDITIONS (Winds aloft, icing level, sea state, density altitude, as appropriate)

PART III ADDITIONAL INFORMATION

PART	SECTION	ITEM	1. REMARKS

2. COPY DISTRIBUTION

2 CC NAVAVNSAFECEN DIRECT (AAR)
1 CC BUREPS DIRECT (AAR)
1 CC CO, NWEF
1 CC COM EIGHT
1 CC COMNAVAIRPAC
1 CC ATKRON ONE ONE TWO
1 CC COMATKCARAIRWINGONE ONE
1 CC COMFAIR ALAMEDA
1 CC NPRO DAC LBEACH
1 CC CO NAVAEROREPCEN

COST DAMAGE TO: 3. GOVERNMENT PROPERTY: None | 4. PRIVATE PROPERTY: None

5. DATE SUBMITTED TO CO: SEP 1 [illegible]

PART IV SIGNATURES OF THE BOARD

1. SENIOR MEMBER: (b) (6) [redacted] CDR [redacted] USN, NWEF — UNIT BILLET: NWEF A/C Projects Off

2. MEMBER: (b) (6) [redacted] LCDR [redacted] USN — UNIT BILLET: CVW-11 Safety Off.

3. FLIGHT SURGEON: (b) (6) [redacted] LT [redacted] USN, CVW-11 Flt Surg.

4. MEMBER: (b) (6) [redacted] LCDR [redacted] USN — UNIT BILLET: NWEF Projects Division Off.

5. MEMBER: (b) (6) [redacted] LT [redacted] USN — UNIT BILLET: NWEF Maint. Control Off.

* When preparing Incident and Ground Accident reports, items indicated by an asterisk in the upper right hand corner must be filled in. Other items considered appropriate should also be filled in.

PART V - THE ACCIDENT

At 1544T, 12 August 1966, CDR J. H. ALVIS, pilot, departed NAS Lemoore, California in A-4C BUNO 148567 on an instrument navigation flight to Dyess AFB, Texas. An instrument flight plan was filed with provisions for enroute air refueling. Flight level 330 was assigned. Following completion of air refueling at FL290 in the vicinity of Needles, California, FL330 was resumed. The flight progressed without incident until passing Albuquerque, New Mexico. Radar fixes from ABQ Center showed an ave. ground speed of 435 KTS between Prescott and ABQ. The airplane was level at FL330 with an IAS of 250 KTS. Eight minutes after passing ABQ, the air route traffic controller at ABQ advised the pilot of a precipitation area directly ahead at about 25 miles with tops reported at FL450 and gave an F-4 pilot report of moderate to severe turb at FL330, 25 miles south of CDR ALVIS' course. The controller then queried the pilot concerning a vector south of course. Following inflight evaluation, the pilot elected to remain on course. The pilot then queried the center controller concerning the width of the precipitation area and was informed that the band was oriented east-west and that he would clear the area on his projected course in about 25 miles. As the airplane entered the precipitation area, the auto-pilot was disengaged, and pitot heat was actuated "on". Light turbulence was encountered and visible rime icing appeared on the wind screen. The pilot monitored engine instruments commencing with the weather penetration, noting steady indications of 94% RPM, EGT of about 580°C, last noted oil pressure was steady 34 psi. The pilot added pwr to 96%, and the EGT stabilized at 610°C. Oil pressure not specifically noted. The pilot then heard a noise he described as a faint hi-pitched squeal. The engine inst. were normal. The squeal increased in intensity and was followed by a moderate explosion, aircraft yaw, and total loss of electrical power. Following extension of the emergency generator, the pilot regained radio contact with ABQ Center and stated he had experienced an engine explosion, was passing 27,500' and requested a vector to any field within 30 miles. The controller responded with vector information to Cannon AFB, 090°, 47 miles. The pilot established a glide at 210 KTS, turned to the vector heading and prepared for a relight attempt at 20,000'. The pilot broke into the clear at 25,000'. The relight attempt at 20,000' was unsuccessful. RPM, EGT, and oil pressure indicated zero. A second relight attempt was conducted at approximately 15,000' with no response. Following the engine explosion, the fuel flowmeter indicated 1500 pph - no change was noted during relight attempts nor power lever movement.

SPECIAL HANDLING REQUIRED IAW PARA 66 OPNAVINST 3750.6E

Passing 12,500', vector information to Cannon was 090°/25 miles. An Air Force F-4C listening on the common control frequency offered assistance and was subsequently vectored to the stricken aircraft. Passing approximately 10,000' with Cannon AFB 20 miles distant, the pilot reported he would not make the field. He cautioned the T-4 pilot to stay clear while he jettisoned his tanks and announced his decision to eject. At a radar position 18 miles west of Cannon AFB and 38 secs after passing an indicated altitude of 7000', the pilot ejected about 12-1500' above ground level, using the face curtain. The aircraft was trimmed nose down and following ejection assumed an increasing dive angle impacting in an open field at about 60°, exploded and disintegrated. The pilot reported the ejection sequence as normal and he landed uninjured in an adjacent open field about 1 mile NNW of the crash site. He was picked up by a local resident, driven to the crash site, then transferred via rescue helo to Cannon AFB. The Melrose Fire Department was the first facility at the scene and put out grass fires surrounding the impact position. They were subsequently relieved by a fire party from Cannon AFB some 23 miles distant by road.

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PART VI - DAMAGE TO AIRCRAFT

The exact damage occurring in the engine prior to ground impact is not conclusive, but certain damage is apparent based on the DIR investigation (enclosure (10)). The first through third compressor rotor and stator blades showed evidence of rotational damage incurred by a foreign object. The fourth through seventh rotor blades (aluminum) were wiped out and appeared to have vaporized and were deposited on the turbine stator and rotor blades. (See heavy metalization shown in enclosure (11D).) Lacking evidence to the contrary, remaining damage to the engine and all damage to the airframe occurred at or after impact with the ground.

The aircraft contacted the ground in a 50-60° nose down, left wing low attitude. This was determined by statements of Major (b) (6) (enclosure (5)) and Mr. Frazier (enclosure (4)) and by the ground imprint of the aircraft. The heading at impact was 087°M at a speed of about 300 KTS. The left wing contacted the ground first leaving a shallow imprint of the leading edge. The nose section then partially cartwheeled into the ground due to the levering action of the port wing. Following nose impact, the engine tore loose from its mounts and ripped forward through the fuselage fuel cell (shredded sections of fuel cell, engine compressor blades, and the main generator were found in the main crash depression). The engine then contacted the ground and bounced out of the crash depression. It rotated at least 1/2 turn before alighting on its tail pipe 102' from the main crash depression (enclosures (8), (11A), (11B), and (11C)). During its 102' flight it scattered compressor rotor and stator blades an additional 500' and shed most of its accessory components. Shortly after the nose of the aircraft contacted the ground the starboard wing tore loose from the fuselage and flew 114' from the main crash depression (enclosure (11A)). The forward section of the fuselage was shredded on impact and remained in the main crash depression. The rear section of the fuselage, the rudder, the horizontal stabalizer, and the tail pipe shroud were scattered on a heading of 048°M from the main crash depression (enclosure (8)).

When the aircraft first contacted the ground an explosion and fire occurred caused by an estimated 3500# of fuel remaining aboard at the time of impact. The explosion induced scattering of parts and very light fire damage was noted on the scattered debris. There was no evidence of inflight fire damage on recovered parts and statements of witnesses report lack of smoke or fire from the aircraft prior to impact.

The engine was sent to NAS Alameda O&R for priority DIR. Results of this investigation are contained in enclosure (10).

PART VII - INVESTIGATION AND ANALYSIS

As requested in COMEIGHT's msg 160143Z Aug 66, the CO NWEF assumed cognizance of the investigation and appointed the Accident Board which first viewed the accident scene five days after the mishap. A military guard at the scene established by officials at Cannon AFB on 12 Aug was interviewed by the Board. From the interview, it was ascertained that no unauthorized personnel had entered the crash area, and that no evidence had been disturbed or removed. After examination of the wreckage, the Board also concluded that rainfall occurring on three of the five intervening days did not have a deleterious effect on investigation of causual factors in the accident. A survey of the area by helicopter oriented the flight path of the stricken airplane, the distribution of wreckage and located the seat and canopy. The drop tanks were located undisturbed except for impact damage in open terrain three miles west of the crash site. The investigation is subsequently divided into three areas. Results of on-scene investigation, analysis of records and statements, and the DIR report (enclosure (10)).

On Scene Investigation

1. Heavy metallization was discovered on first stage turbine blades (enclosure (11D)).

2. Appearance of the engine and the pilot's statement gave indications of bearing failure.

3. Oil-soaked ground was found under accessory drive components, the oil tank, and mutilated fragments of oil lines located throughout the impact site in spite of intervening rain and the sandy/porous soil composition of the area.

4. There was no evidence of inflight fire. Electronic components from all areas of the airplane, particularly those in proximity to the engine and engine bays were opened and examined for melted solder joints, heat deformation and melted plastic components. None were found. Examination of the air frame skin and components showed no fire damage except that sustained following impact explosion.

5. An imprint of the turbine on the tailpipe and the appearance of the compressor indicated zero or near zero engine RPM at impact.

6. The No. 1 engine bearing located in the impact depression showed impact damage only.

7. The main oil strainer was examined for metal and contamination. No implicating evidence.

8. The compressor casing and detached parts of it showed evidence of gouging and impact damage but no indications of compressor rub or differential expansion of the compressor casing and rotor.

9. The ejection seat was intact with separation bladders inflated.

10. The canopy was located in proximity to the seat with the canopy-seat-interlock cable attached.

11. The air conditioning turbine was found intact in the main depression. Examination showed no internal failure or foreign object injestion.

12. The following components were examined and subsequently forwarded for analysis with the DIR:

Accessory Gear Box (All mounting pads broken off)

Flow Dividers

Fuel Control H-510917 (4 pieces, casing cracked)

Oil Pump 611157 (Smashed lines, body in pieces)

Magneto 7367 (Body smashed, shaft jammed)

Fwd Hydraulic Pump (Headplate sheared at studs)

Fuel Pump PE 8846 (Broken flange mounting, lines shredded)

Tail Pipe and Heat Shield (Complete deformation)

Fuel Flow Transmitter (Casing split, lines sheared)

13. The engine and flight instruments were so badly mutilated that no readings could be ascertained. The one exception was the RMI which indicated a heading of 078 DEG.

14. Portions of the left and right consoles were found but their mutilated condition precluded determination of switch positioning.

15. Dirt from the main impact position was screen-sifted for engine parts which were subsequently forwarded for analysis.

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Analysis of Records and Statements

1. Flight authorization, pilot qualifications and preparation for flight by the pilot and maintenance personnel were adequate and were not considered causal or contributing factors.

2. Analysis of predicted weather and that encountered were considered but eliminated as a factor. The weather encountered was not an abnormal environment.

3. The airplane was properly pre-flighted and serviced for the intended mission.

4. The airplane completed PAR 5/26/66 and was in the third calendar month of its fourth tour. The next scheduled odd-calendar inspection was due not later than 22 Sep 66.

5. There were no records indicating major maintenance or component removal or replacement since PAR completion. Records showed only routine servicing and maintenance. The airplane had flown 12.2 hrs in the previous five days with only two reported discrepancies. (See No. 9 below.) Air to Air TACAN not operating and dim advisory indicator lights.

6. The possibility of pre-oil TEE check valve failure associated with A4 AFC 325 increment V was investigated but found not applicable, the change had not been incorporated. (COMNAVAIRPAC 062119Z May 66 refers)

7. Oil consumption records and engine run down times were analyzed. Normal data - no trends apparent.

8. A review of work order and maintenance discrepancy reports did not reveal cause factors.

9. A pilot report of 10 Aug noted a max EGT of 670°C with the comment "Lots of poop." The airplane was left in an "up" status and no corrective maintenance action was taken. This overtemp condition should have initiated trouble shooting procedure for the engine indicating system and or a jet-cal. This condition was not considered a cause factor but is an important factor on engine life. The referenced "lots" of poop indicates an overtrimmed condition rather than a transient temperature condition.

10. A "time-ticked" verbatim recording of the voice communications between the ABQ ARTCC controller, the pilot of the A-4C and the pilot

of Force Jet "Livid 14" was analyzed for information not recorded in other statements or interviews. Vertical speed and determination of ejection altitude were obtained from this source. No other significant information was obtained.

11. Continuous voice communications were maintained up to the time of the engine malfunction and it was concluded that generator icing was not a factor. Partial failure due to icing can cause loss of TACAN, air conditioning, and erroneous attitude presentation. From the pilot's statement and an interview with him, these indications were not observed.

12. The "freezing" of the fuel flow indicator (pilot's statement, enclosure (2)) is unexplained,other systems operated normally on emergency generator power. Situations which could cause this condition are loss of one phase of AC input, or the severing of a phase lead. Location of the instrument is such that compressor blades from the 3rd to 5th stages would have to have severed the wire bundle following rupture of the compressor case in flight. There was no evidence to sustain this as a cause for failure.

13. The pictures taken by the F4C pilot last paragraph, enclosure (5), were reviewed. No usable information.

14. Ejection was initiated at low altitude as confirmed from the review of ABQ center recording and the statements of witnesses (enclosure (5), (6), and (7).

15. No fire, flame or smoke was observed emitting from the striken aircraft prior to impact (enclosure (6) and (7)).

16. External damage to aircraft prior to the crash could not be determined. Although the F4C pilot had visual contact, with the A4C, he did not reach a proximity permitting visual inspection (enclosure (5)).

17. There was no indication that the pilot accepted the airplane for flight with known discrepancies or that he initiated any in flight action that could have precipitated the accident.

18. The pilot actuated pitot heat "ON", secured auto pilot and added power in anticipation of icing conditions not because of them. Weather penetration procedure was proper.

19. There was no defined indication that the addition of power or the entry of the airplane into the precipitation area caused the subsequent engine failure.

20. The pilot stated the airplane was not re-trimmed using emergency power.

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The DIR

1. The DIR analyst concluded that none of the components forwarded with the engine were contibutory to the accident and that the compressor failed due to the ingestion of a foreign object, the origin of which is unknown. Frequent interviews with the analyst and possible identifications of the object and its origin were systematically analyzed and rejected. The suspected foreign object is currently being metallurgically analyzed. Pictures of the object have been given wide distribution in O&R, maintenance activities, and the airframe contractor for identification. Manuals of standard fittings were searched for correlation or identification of the object with negative results.

ANALYSIS

In analyzing the evidence from this accident, the Board considered two areas. First, what caused the engine to fail and second, what actions, if any were available or utilized by the pilot to alleviate or improve the situation.

A description of the Board's thoughts concerning the cause of the engine failure and their resons for concurring in or denying them are stated in the following paragraphs.

When first viewed at the crash site, it was evident that the engine was stopped or turning at very slow RPM when it hit the ground. This was further confirmed by the pilot's statement wherein he reported zero RPM and zero EGT following the engine failure. The evidence indicated a main bearing failure, however in the investigation for the presence of oil, or lack of it in the engine and its components, there was strong evidence that oil was being supplied to the engine at the time of failure. Bearing failure was ruled out when the DIR Inspector found all three main engine bearings in good condition.

The Board next considered ingestion of some flammable fluid in the compressor section causing a fire or explosion in flight. This area was given extensive coverage due to the extremely heavy metalization found on the latter compressor stages and the turbine stator blades and the pilot's statement. The fuel and hydraulic lines located proximate to the engine though badly mutilated did not indicate inflight failure and no heat damage was noted on engine parts thrown clear of wreckage or in amplifiers located adjacent to the engine and tail pipe. From the statements of ground witnesses, wreckage examination, and the lack of inflight fire indications, ie., high EGT, or fire warning to the pilot, a finding of inflight fire or explosion could not be sustained.

The next area investigated was Foreign Object Damage. This did not at first appear likely as the aft section of the compressor and the turbine section of the engine were in excellent condition. If there was FOD, it had not progressed as far as the turbine section, before the engine stopped rotating. If FOD was causual, was the Foreign Object integral to the aircraft, the engine, or caused by some external source? The pilot reported an explosion which felt like it came from under his left foot. The only moving part located in this position is the air conditioning turbine and even if it exploded, its location is low in relation to the port inlet duct of the engine. Ingestion from this source was considered unlikely. The air conditioning turbine was found in the main crash depression, was disassembled and found to be in good working order. All other engine accessories which could have been ingested into the engine were found and examined. The main generator, because of its location ahead of the engine and its susceptibility to icing was suspect. The case and armature were found at separate spots in the main crash depression but neither showed signs of inflight failure. There was no indication to the pilot of generator icing. The Board at this time returned to the crash site to screen-sift the dirt from the crash depression in hopes of finding some other evidence. A few more first stage compressor rotor and stator blades were recovered but nothing else. By this time the DIR Inspector had gone into the engine quite thoroughly. He analyzed the metallization on the turbine and determined it was aluminum from the 4th through 7th stage compressor rotor blades. He was also certain that FOD had caused the engine failure due to the appearance of the front stage compressor blades, but he was uncertain as to the source or type of FOD. In sifting out the dirt from the compressor section he found the foreign object shown in enclosure (11E, F, & G). His analysis was that the item was so peened that the damage to it could only have occurred inflight as a result of being ingested into the engine during hi-speed rotation. The origin of this item is still unresolved. It is peculiar in that its outer case is steel, it contains a threaded aluminum insert, and at one end a piece of brazed tubing was probably attached. A metalurgical examination is in process and a supplemental report will be submitted if the object is identified. The DIR Inspector stated that it is not integral to the engine and so far the Board, with Douglas Aircraft Company assistance, has been unable to determine its location on the A4 airframe. Remaining possibilities considered were that it was a piece of ground handling equipment or a special tool which was left in the intake duct and remained undetected during maintenance and preflight; that the object was drawn into the intake duct during taxi or takeoff; or that it was a piece of FOD which somehow was caught in the refueling store drogue basket during a ground maintenance period and was dislodged at the time the pilot commenced inflight refueling. If any of this theorizing is plausible, the item had to remain lodged against the inlet guide vanes for some indefinite time before it came loose and fell back into the

compressor face. The possibility exists that it became unbalanced when ice formed on it after the aircraft entered the precipitation area, or that the piece of brazed tubing which could have been attached to it was finally worn off by vibration or abrasion. The Board theorized that the hi-pitched squeal the pilot heard could have been the tubing being ground off initially until finally the entire steel section was pulled into the compressor section striking the first stage rotor blade as depicted in enclosure (11F). At this time several first stage blades failed and progressed into the third through seventh steges which vaporized due to hi rotational speed and the engine flamed out during the rapid deceleration. Compressor failure due to rotor shifing is a possibility that could not be determined. This type failure could have been induced without a bearing failure indication. Lacking evidence to the contrary, the Board felt that the illusion of an explosion under the cockpit was caused by induced vibratory airframe stress rather than a failure in this area. The yaw could have been the result of the loss of stability augmentation following power failure, or a shift in lateral location of the engine because of failure of the forward engine mount coincident with compressor failure.

As to the pilot's actions during the flight, the Board concluded the following: The flight was duly authorized and the pilot was executing the flight plan in an approved manner. There were no indications that pilot actions prior to the engine failure induced it or that he could have known of the impending failure from cockpit indications. He was operating within the allowable engine operating range at 96% RPM and 610° EGT. He was aware of the effects of icing on the engine and was correct in his procedure in anticipating them. After the explosion, flameout, and engine failure, the pilot used proper emergency procedures commensurate with the situation. His decision to glide toward Cannon AFB was proper in that he initially anticipated a relight prior to landing. He could normally expect a glide range of 50 miles from 27,500' with a clean airplane and a windmilling engine. In this case he had three drop tanks, a frozen engine, and the RAT extended, which cut his glide range to about 30 miles. He attempted a relight at 20,000' which was unsuccessful. At this time the pilot states he knew he was going to have to eject.

The only question the Board has as to any pilot action during this flight is whether the pilot waited too long to eject. After the crash the pilot informed the flight surgeon that he believed he ejected at 8000' MSL or about 4000' AGL. The Board determined that the pilot ejected at 5400' MSL or about 1200' AGL. This is based on voice tapes reviewed at Albuquerque Air Route Traffic Control Center. The last statement made by the pilot concerning his altitude was as he passed through 7000'. Thirty-eight seconds later the accompaning F4C pilot

stated "He is ejecting right now." Based on the aircraft's rate of descent (averaged rate from 20,000' to 7000'), the pilot ejected at 5400' MSL. The elevation of the terrain at the crash site is 4200'. This is well within the RAPEC ejection envelope and the pilot may have waited to insure that his aircraft would not strike a populated area, however had his ejection seat not worked there would not have been sufficient time or altitude to attempt manual egress from the aircraft. The Board assumed that the pilot was aware of the terrain elevation and that his decision to delay ejection was predicated on aircraft clearance from populated areas.

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PART VIII - CONCLUSIONS AND RECOMMENDATIONS

1. It is concluded that:

   a. The engine failed due to foreign object ingestion.

   b. There was no pilot action that contributed to the failure, nor any inflight pilot procedure that could have prevented the accident.

   c. That ejection was initiated at an altitude which left little margin for alternate emergency action even though the requirement for ejection was confirmed prior to passing an altitude of 10,000'.

   d. There was no evidence to sustain maintenance, personnel or supervisory error in the accident though the possibility exists that a foreign object was inadvertently left in the intake duct.

2. It is recommended that:

   a. Pilots be acute in maintaining engine operation within defined operating limitations and that they bring obvious exceptions to the attention of maintenance personnel for corrective action.

   b. Pilots be continually aware of the relationship existing between local ground elevation and airplane altitude to assure adequate terrain clearance should emergency egress be required.

ENCLOSURES

1. Medical Officer's Report and Appendix One (original only)
2. Statement of Pilot: CDR J. H. Alvis, USN
3. Maintenance Control Officer's Statement, (b) (6) USN
4. Ejection Seat History
5. Statement of MAJ (b) (6) USAF, pilot of F4C "Livid 14"
6. Statement of Mr. Melvin Estes (witness)
7. Statement of Mr. Earl Frazier (witness)
8. Wreckage Diagram
9. Map of Crash Scene
10. DIR Report, J65-W16A Ser 612332
11. Photographs (7)
12. Photostat of DD-175
13. Statement of Fire Chief Cannon AFB (original only)
14. Helicopter Rescue Report (original only)

DEPARTMENT OF THE AIR FORCE

8320 TACTICAL HOSPITAL (TAC)

CANNON AIR FORCE BASE, NEW MEXICO 88101

REPLY TO ATTN OF: SG-AM

17 Aug 66

SUBJECT: Statement

TO: Whom it may Concern

1. Commander John H. Alvis walked into the Air Force Clinic on the evening of 12 Aug 66 at 1925 hours stating that he had just ejected from his aircraft near Melrose, New Mexico.

2. He walked in completely unassisted and his only complaint was (b) (6) [redacted]. Physical examination revealed no signs of injury anywhere. Even the right ankle was not swollen or tender. No x-rays were taken.

3. (b) (6) [redacted] and the patient sent on his way with instructions to check in with his own dispensary if he had any persistent symptoms (b) (6) [redacted] or any other area.

(b) (6) [redacted] (b) (6) [redacted]

CAPT, MC, USAF

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 66 OF OPNAVINST 3750.6E

ENCLOSURE (1) APPENDIX I

Statement of Pilot, CDR J. H. ALVIS, concerning A4C 148567 accident on 12 August 1966

At 1544 on 12 Aug 66 I departed NAS Lemoore on an IFR flight to Dyess AFB, Abilene, Texas. The flight proceeded normally until passing Albuquerque. I was cruising at FL 330 in VFR flight conditions. There were numerous cumulus cloud buildups in the area and some stratus clouds. Albuquerque Center called and said there was a precipitation area about 20 miles long and 5 miles wide ahead of me and asked if I wanted a vector to the south. I looked the area over and could see nothing but stratus clouds ahead and to the left of my course whereas there were some cumulus to the south. I informed center of this fact and held my course. I entered the clouds and encountered light precipitation and light turbulence. Albuquerque informed me that they had me entering the precipitation area. Light ice began to form on the windscreen. I called Albuquerque Center and asked them again the width of the precipitation area. The controller stated that it was about 20 miles long and 5 miles wide oriented east and west. By this time I thought I should be almost through it and held my course. The conditions were right for ice to form on the inlet guide vanes so I watched the RPM and EGT carefully. The RPM was steady at 94% and the EGT was steady at about 580°. This was giving me an IAS of 250 knots and a MACH of 0.71. A Marine F4 reported moderate to severe turbulence at FL 330 in this area. I disengaged the autopilot in anticipation of turbulence but still encountered only light turbulence. At this time I began to hear a very faint high pitched squeal. I quickly checked the engine instruments and they were steady. I don't remember the specific oil pressure reading, but it had been reading 34 psi and must have been still in the 12 o'clock position or I would have noted it. I did not associate the squeal with the engine as there was no vibration and the engine still sounded normal. The squeal rapidly (maybe 30 seconds) built up to a crescendo and there was a moderate explosion in what seemed to be the port side of the nose section of the aircraft with the A/C yawing a few times. All electrical power was lost and the radio went dead. I dropped the emergency generator and concentrated on the flight instruments to ensure that I maintained control of the aircraft The A/C rolled inverted twice but erected rapidly each time. The standby gyro operated normally. It was apparent by this time that I had flamed out and the aircraft was descending. I checked the engine instruments; the RPM, EGT and oil pressure were zero. I did not note the cabin pressure nor do I remember a rapid drop in cabin pressure. The fuel flow read 1500 pounds per hour. I moved the throttle back and forth, but there was no thrust change nor any change in the fuel flow. I moved the throttle to the off position and informed Albuquerque Center I had flamed out and asked for a steer to the nearest field. They gave me a steer of 090°/45 miles for Cannon AFB. I made a slight turn to the right to 090° and set up a glide at about 210 knots. I was convinced that the explosion had not been in the engine so I got out my pocket check list and reviewed the relight procedures in anticipation of a relight attempt at 20,000 feet. The RPM, EGT and oil pressure were zero. The fuel quantity read 3500 pounds and the fuel flow still read 1500 pounds per hour. At about 25,000 feet I broke into the clear, visibility was unlimited. I could see one small town which I later learned was Melrose, New Mexico. Albuquerque Center continued to give me steers to Cannon AFB. At 20,000 I tried a relight but with the RPM at zero and no change in fuel flow, I did not expect a relight. I watched the EGT and fire warning Light

but neither gave any response. After about 45 seconds I moved the throttle to off. I was convinced then that I would have to eject. I tried one more air start but again there was no response. An Air Force RF4C was joining on me so I told him to stay clear while I dropped my tanks. I wanted to get as near Cannon as possible. I selected ALL, pulled the emergency release and the two empty tanks and blivette dropped. I looked below and saw nothing but open fields so I informed Albuquerque Center that I was going to eject. The aircraft was trimmed nose down. I left it that way as I wanted it to go down in the open fields after I ejected.

The ejection, seat separation and parachute opening were normal. The ejection, wind blast and parachute opening shock were less severe than I had anticipated. I removed my oxygen mask and decided not to release one side of the seat pack as for water landings. I looked the countryside over and tried to turn to face down wind but could only get about 90° to my line of drift. I hit the ground quite hard and was dragged about 20 feet while releasing the Koch fittings. No difficulty was experienced in releasing the fittings. Within a few minutes a farmer drove up and took me about a mile over to where the aircraft had hit. Within about 30 minutes an Air Force helicopter arrived and took me to Cannon AFB.

I do not know the cause of this accident, but I am quite sure that the air conditioning turbine exploded and by some means caused the engine to seize. The only thing unusual at the time of the explosion was the ice forming on the windscreen. I have seen this a number of times and on two occasions I have had the main generator ice up which required dropping the emergency generator. Several times while flying in visible moisture above the freezing level I have had ice cover the ram air ports on the inlet guide vane causing the engine RPM to decrease, but a descent to below freezing level has always cleared up the ice.

J. H. Alvis

J. H. ALVIS
CDR, USN

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 66 OF OPNAVINST 3750.6E

18 August 1966

Subj: Maintenance Control Officers Statement

Aircraft BUNO 148567

Ref: VA-112 AAR 3-66A

1. Aircraft was fueled to 5400 lbs internal and 4000lbs external. Aircraft refueled in flight from A4C tanker.

2. Aircraft was serviced with 4 ½ quarts of oil.

3. Aircraft was preflighted IAW A4C MRC requirements and is considered to have been properly prepared for flight.

(b) (6) [redacted]

LT USN

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARA 66 OPNAVINST 3750.6E

ENCLOSURE (3)

EJECTION SEAT HISTORY

1. From the airplane log books. The following data was extracted by the Board.

NAFZC SER. NO. A18-1098
INSTALLED A4C BUNO 148567 9-12-61 COMP. PAR. 5-20-66 BY NAS ALAMEDA

THE FOLLOWING TECHNICAL DIRECTIVES INC.

INTERIM AIRCREW SYSTEMS BULLETINS

12A	INC	NAS ALA.	5-12-66
66	INC	NAS ALA.	5-18-66
78	INC	NAS ALA.	4-14-66

AIRCREW SYSTEM BULLETINS

57	INC	VA-112	3-17-65
58	INC	VA-112	3-17-65
69	INC	VA-112	9-3-65
12 AMD 2	INC	VA-22	8-26-63
15	INC	VA-22	9-16-63

AIRCREW SYSTEM CHANGES

31	INC	VA-112	4-12-65
41	INC	VA-112	1-21-66
34	INC	NAS ALA.	5-12-66
37	INC	NAS ALA.	5-12-66
DIF. 37	INC	NAS ALA.	5-12-66

A4 INT. A/F CHANGES

270	INC	VA-22	7-27-64

A/C CLOTHING AND SURVIVAL EQUIPMENT BULL.

15-62	INC	VA-22	8-7-62

CNAF A4 A/C BULL.

3-61	INC	VA-22	11-24-61
9-61	INC	VA-22	11-24-61
49-62	INC	VA-22	7-26-62
57-62	INC	VA-22	9-7-62
57-62	INC	NAS ALA.	2-19-63
74-62	INC	VA-22	11-5-63

SPECIAL HANDLING REQUIRED IAW PARA 66 OPNAVINST 3750.6E

MISCELLANEOUS HISTORY OF SPECIAL VALUE

6-20-66 CNAP 070611Z MAY 66. THE AGE LIFE OF RAPEC MK 1 MOD 1 IS EXTENDED TO 60 MONTHS FROM DATE OF MANUFACTURE PROVIDED OPERATING TEMPERATURE RANGE IS RESTRICTED TO RANGE FROM MINUS 10°F TO PLUS 165°F. UNITS WITH CURRENT AGE [illegible] 48 MONTHS OR LESS ARE QUALIFIED FOR USE AT MINUS [illegible] TO PLUS 165°F UNTIL 48 MONTHS OLD AND THEN REVERT TO TEMPERATURE RANGE INDICATED ABOVE. (NOTE) MK 1 MOD 1 INSTALLED 5-18-66 NAS ALA., EXPIRATION DATE 7-67.

2. This Board concluded that there were no factors in the RAPEC history that had an adverse effect on proper functioning of the seat.

SPECIAL HANDLING REQUIRED IAW PARA 66 OPNAVINST 3750.6E

Enclosure (4)

Statement of Major [redacted] FR [redacted] USAF, Concerning A4C 148567 Accident on 12 August 1966.

Enroute from George AFB to Cannon AFB in an RF4C we heard an aircraft call ARTC saying he had flamed out and needed a steer to the nearest airfield. He was given a vector to Cannon AFB and ARTC began keeping us above the disabled aircraft's altitude as he descended. It became obvious after a few minutes that he wouldn't get an airstart and I offered to fly his wing on the descent to give any assistance possible. He accepted and ARTC vectored me toward his position, some seven or eight miles to the west. By this time the disabled aircraft was passing through eleven thousand feet.

By the time I slowed my aircraft to formating speed, the disabled ship's pilot had dropped his external tanks and was passing through approximately 7000 feet MSL. I was unable to get close enough to the aircraft to look it over carefully since at about this time the pilot had made the decision to eject.

The aircraft nosed over sharply, the ejection seat fired and the personnel parachute deployed. The aircraft continued a 50-60 degree dive, rolled to the left and maintained that attitude until striking the ground. It exploded on contact. I circled the pilot as he descended and after he landed in a field, I determined that he was OK and so notified Cannon approach control.

I made a pass over the crash scene, located about 1½ miles from the pilot in an open field, took pictures as I passed over it and departed for Cannon to land.

/s/ [redacted]
Major, USAF

Total flying time: 3100 hours
Total rated time: 14 years
Senior pilot.

CERTIFIED TO BE A TRUE COPY OF HIS STATEMENT

[redacted]
CDR, USN

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 66 OF OPNAVINST 3750.6E

ENCLOSURE (5)

Statement of Mr. Melvin ESTES, International Harvester Dealer, Melrose, New Mexico, Concerning A4C 148567 Accident on 12 August 1966

On the afternoon of the airplane crash, I was driving in my pickup truck 6 miles north and 5 miles west of Melrose, New Mexico, when I observed two aircraft at low altitude heading north east. Looking behind the aircraft, I saw 3 objects falling down from them. The two aircraft slowly turned right to an approximate heading of south east. One aircraft appeared to be in trouble, and the other aircraft stayed higher. The aircraft in trouble got lower and lower. Almost simultaneously I saw the flash of the aircraft hitting the ground and exploding and the pilot descending in a parachute. At no time before the crash did I see any smoke or fire coming out of the stricken aircraft.

/s/ MELVIN ESTES

Mr. Estes is considered to be a reliable witness.

CERTIFIED TO BE A TRUE COPY OF HIS STATEMENT.

(b) (5) [redacted]

CDR, USN

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 66 OF OPNAVINST 3750.6E

ENCLOSURE (6)

Statement of Mr. Earl FRAZIER, Employee of International Harvester Dealer, Melrose, New Mexico, Concerning A4C 148567 Accident on 12 August 1966.

On Friday afternoon on 12 August, I was working on my pickup truck in the driveway by my house when I observed a low flying aircraft heading east. At this time, it was about ¼ mile north of my house. It appeared to be in trouble, because it was going so slow and the wings were rocking slowly side ways. Another aircraft flew along side of it and then added power and pulled up higher. Shortly after this, the low flying aircraft nosed over steeply and the pilot came flying out. His parachute opened, and he floated to the ground. Meanwhile, the aircraft dived straight into the ground and exploded. Before the crash, I did not notice any smoke or fire coming from the aircraft.

/s/ EARL FRAZIER

Mr. Frazier is considered to be a reliable witness.

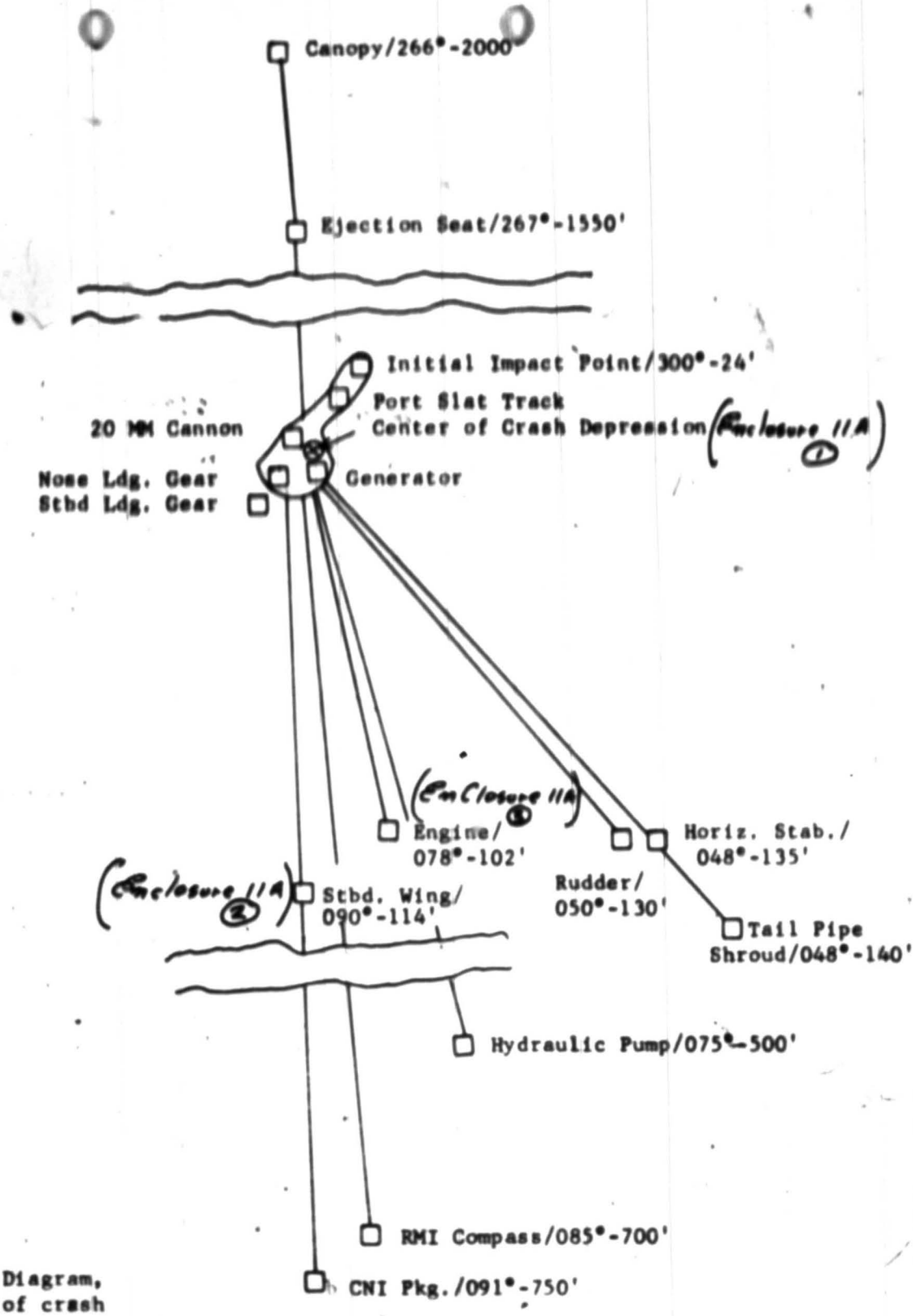
CERTIFIED TO BE A TRUE COPY OF HIS STATEMENT.

(b) (6) [redacted]

CDR, USN

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 66 OF OPNAVINST 3750.6E

ENCLOSURE (7)

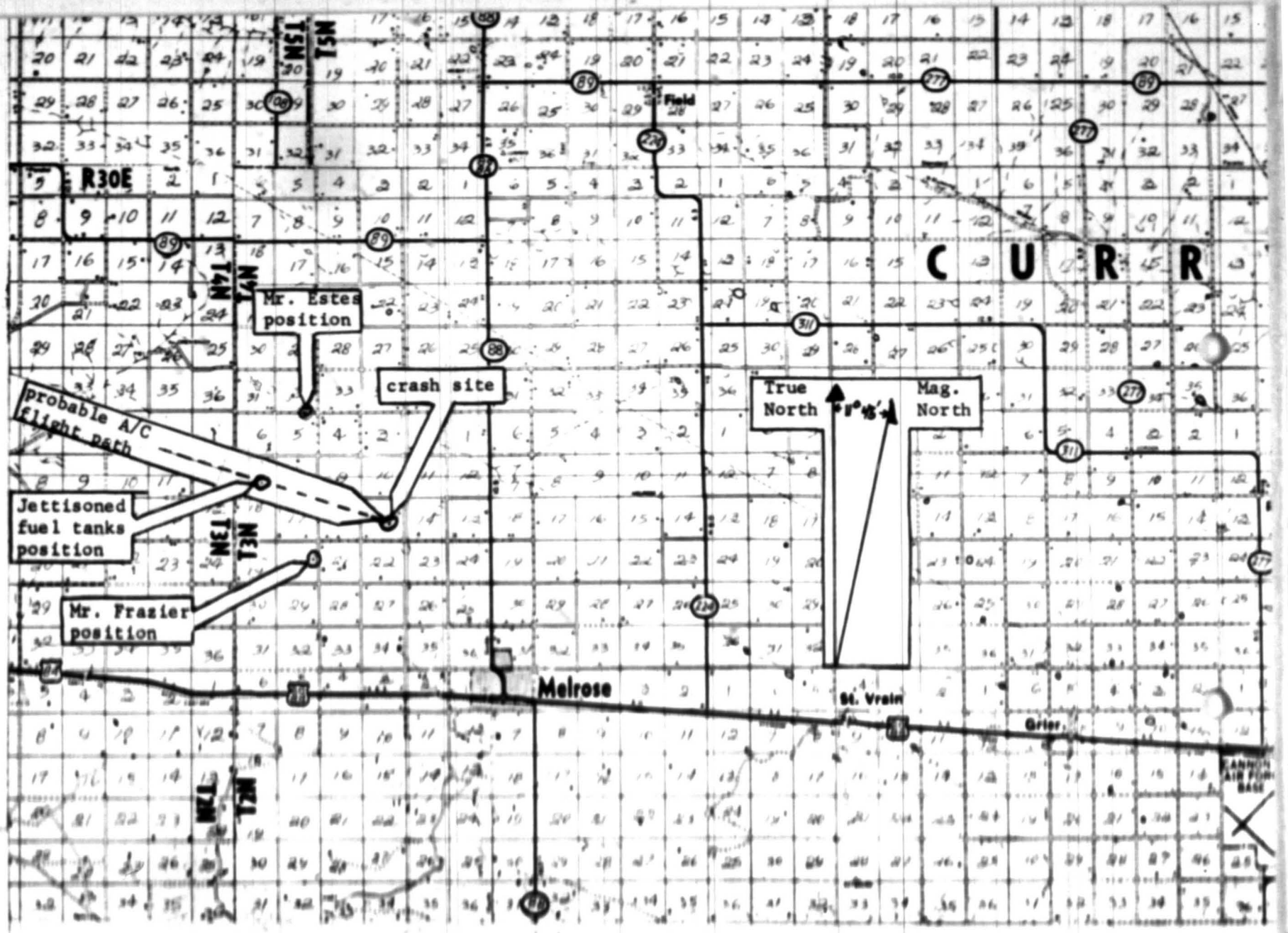


A-4C 148567 Wreckage Diagram,
oriented from center of crash
depression (all headings magnetic)

Special Handling Required in accordance with Paragraph 66 of OPNAVINST 3750.6E

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 66 OF OPNAVINST 3750.6Z

ENCLOSURE (9)



CURRY COUNTY SECTIONAL MAP
showing location of crash site and position of witnesses.
(each square is 1 mile on a side)

O 0R1940Z SEP 68
FM NAS ALAMEDA
TO RUWDAF/NAVAIRSYSCOMREPAC
INFO RUECW/NAVAIRSYSCOM
RUCDBG/NAVAVNSAFECEN NORVA
RUWJFMA/NWEF KIRTLAND AFB — NWEF
RUWSAL/ATKRON ONE ONE TWO
RUWDAF/COMNAVAIRPAC
RUWDAF/CARAIRWING ELEVEN
ZEN/COMFAIRALAMEDA
RUEGUC/DCASO WOODRIDGE
RUEGFA/NATSF PHILA
RUEGPA/NAS QUONPT
BT
UNCLAS
FAILURE ANALYSIS J65-W16A ENGINE SERIAL 612332 FROM A-4C AIRCRAFT BUNO 148567
A. YOUR 283945Z AUG NOTAL
B. ATKRON ONE ONE TWO AAR SER 3-66A
1. ENGINE RECEIVED IN MUTILATED CONDITION. SEVENTEEN FIRST STAGE

PAGE TWO RUWSAA 014 UNCLAS
COMPRESSOR ROTOR BLADES RECOVERED, TWENTY MISSING. ALL SECOND AND THIRD STAGE COMPRESSOR ROTOR BLADES RECOVERED. ALL FOURTH THROUGH SEVENTH STAGE COMPPRESSOR ROTOR ALUMINUM BLADES WIPED OUT. EIGHTH THROUGH THIRTEENTH ROTOR BLADES INTACT EXCEPT FOR ROTATIONAL DAMAGE. ELEVEN COMPRESSOR ENTRANCE GUIDE VANES RECOVERED. ALL HAD ROTATIONAL DAMAGE AT TRAILING EDGE. FIFTEEN FIRST STAGE COMPRESSOR STATOR BLADES RECOVERED. MOST OF REMAINING STAGES OF STATOR BLADES WERE RECOVERED. ALL COMPRESSOR BLADES HAD IN-FLIGHT ROTATIONAL DAMAGE. ENGINE CONDITION INDICATED LITTLE OR ZERO RPM AT TIME OF IMPACT.

2. SCREENING OF DEBRIS FROM COMPRESSOR SECTION REVEALED A FOREIGN OBJECT RESEMBLING A B-NUT TUBING CONNECTOR. DIMENSIONS OF OBJECT, ONE-HALF INCH LONG, THREE-QUARTERS INCH DIAMETER, HAVING THREE-SIXTEENTH INCH HOLE IN CENTER, AND ON-SIXTEENTH INCH WIDE BY ONE-SIXTEENTH INCH DEEP GROOVE AROUND CIRCUMFERENCE. OUTER SHELL OF OBJECT IS STEEL AND IS SEVERELY NICKED AND POUNDED. THIS CONDITION COULD ONLY HAVE BEEN INDUCED BY CONTINUALLY POUNDING AND NOT FROM IMPACT AT TIME OF CRASH. ONE FIRST STAGE COMPRESSOR ROTOR BLADE HAD A GOUGE ON LEADING EDGE PATTERNED SIMILAR TO FOREIGN OBJECT. SECTIONING OF STEEL OBJECT REVEALED A ONE-HALF INCH OUTSIDE DIAMETER ALUMINUM FERRULE WITH SIZE TWENTY-EIGHT THREAD. A STEEL WASHER

SPECIAL HANDLING REQUIRED IN ACCORD PARA 66 OPNAV INST 3750.6E

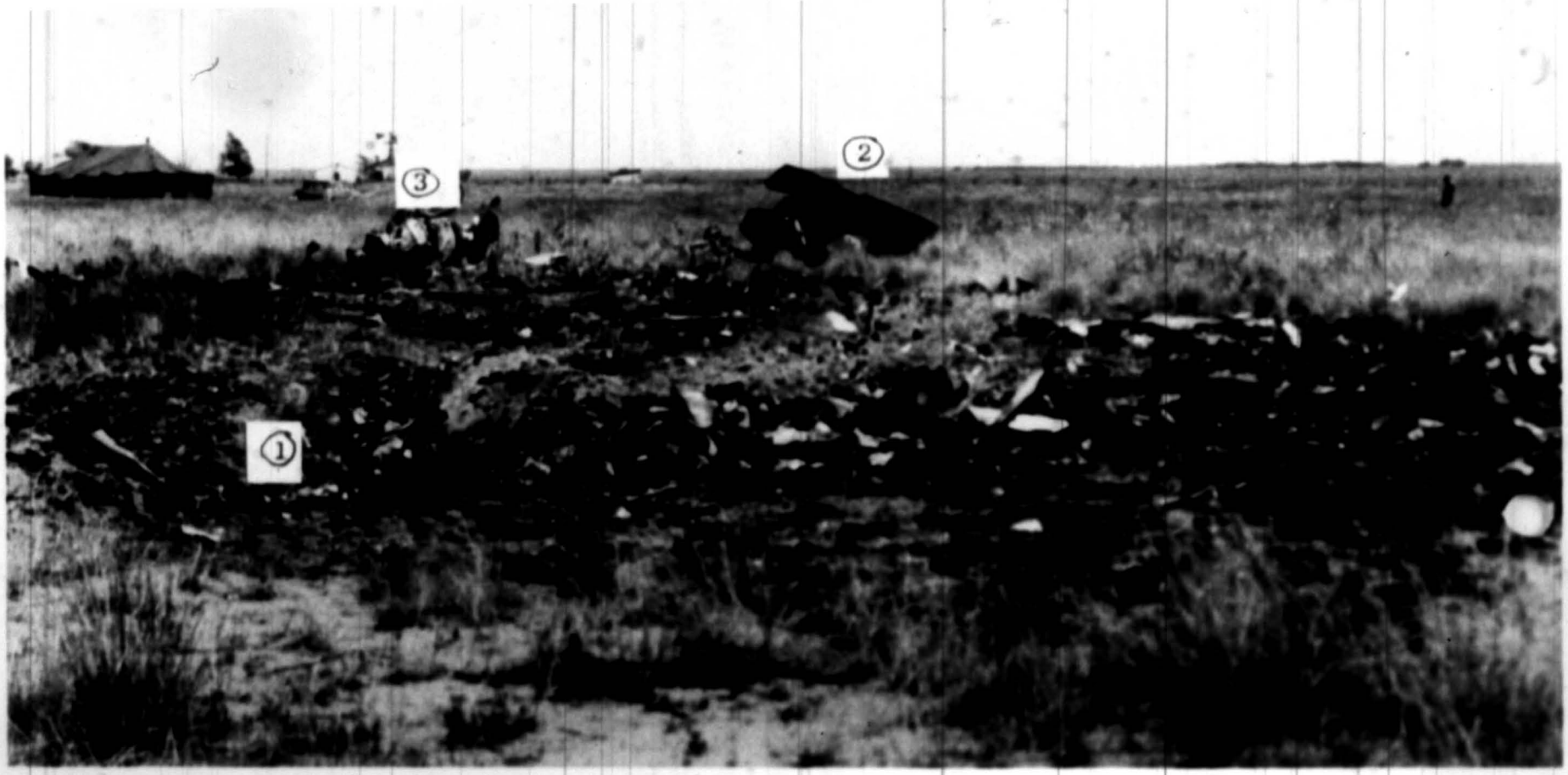
PAGE THREE RUWSAA 014 UNCLAS
WHICH APPEARED TO BE ATTACHED TO END OF TUBING. FERRULE SCREWED INTO STEEL OUTER CASE SECURING WASHER AND TUBING TO STEEL OUTER CASE. UNABLE TO IDENTIFY FOREIGN AND ITS SOURCE. OBJECT IS NOT ENGINE PART.

3. TURBINE ROTOR AND STATOR BLADES WERE HEAVILY COATED WITH ALUMINUM METALIZATION CAUSED FROM WIPEOUT OF ALUMINUM COMPRESSOR BLADES IN FLIGHT. WA FOREIGN-OBJECT

4. FRONT, CENTER, AND REAR MAIN ENGINE BEARINGS WERE SATISFACTORY EXCEPT FOR IMPACT DAMAGE.

5. CONCLUDE ENGINE FAILURE WAS CAUSED BY PRECEDING DESCRIBED FOREIGN OBJECT PENETRATING THROUGH ENGINE COMPRESSOR INLET CAUSING IN-FLIGHT COMPRESSOR FAILURE. SHOULD IDENTIFICATION OF FOREIGN OBJECT BE MADE AT A LATER DATE, A SUPPLEMENT TO THIS REPORT WILL BE INITIATED.

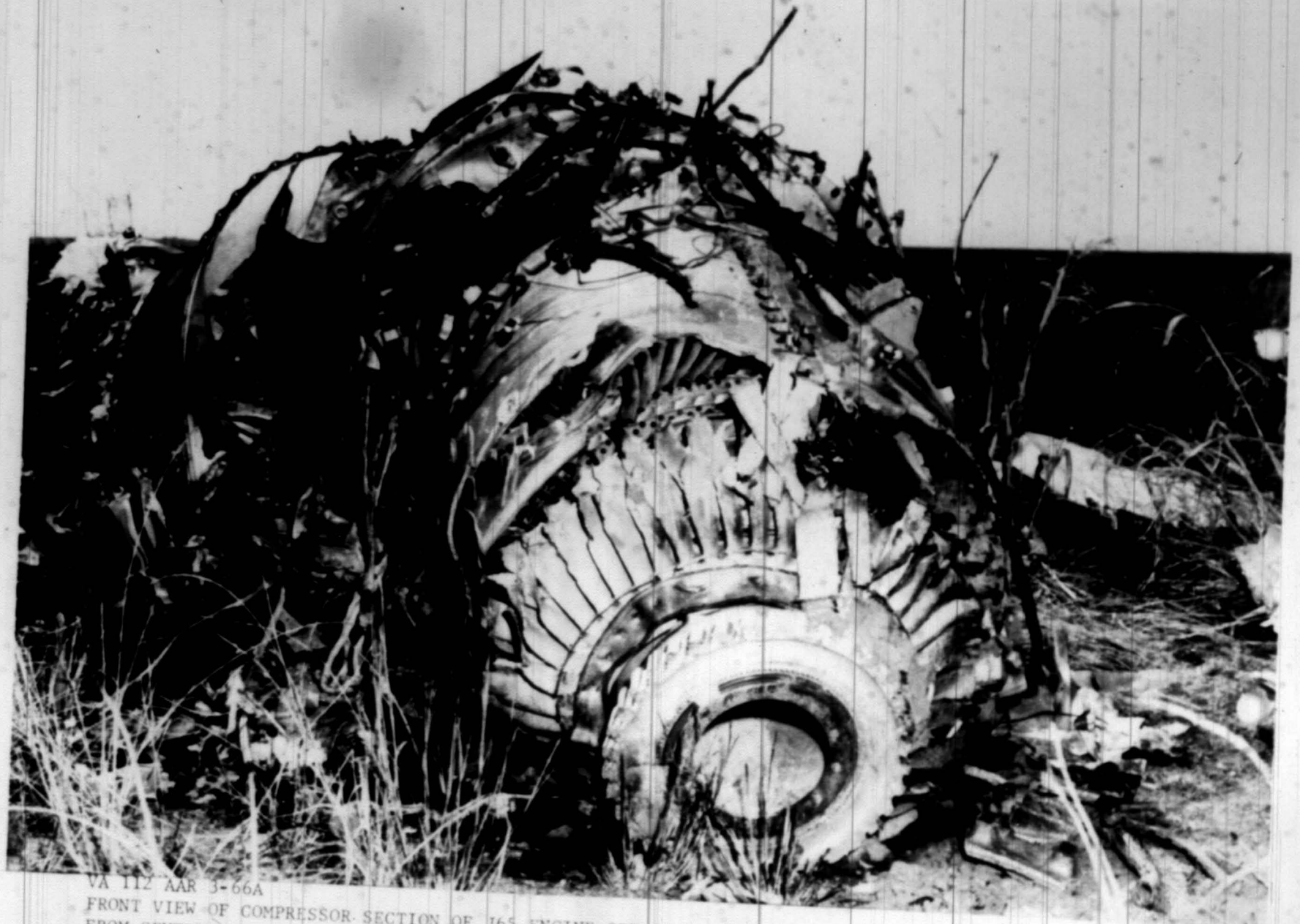
ENCLOSURE (10)



VA 112 AAR 3-66A
VIEW OF CRASH SITE SHOWING: ① CENTER OF CRASH DEPRESSION ② STBD WING ③ J65 ENGINE. SEE ENCLOSURE (8) FOR HEADING AND DISTANCE INFORMATION.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARA 66 OF OPNAVINST 3750.6I

ENCLOSURE (11A)



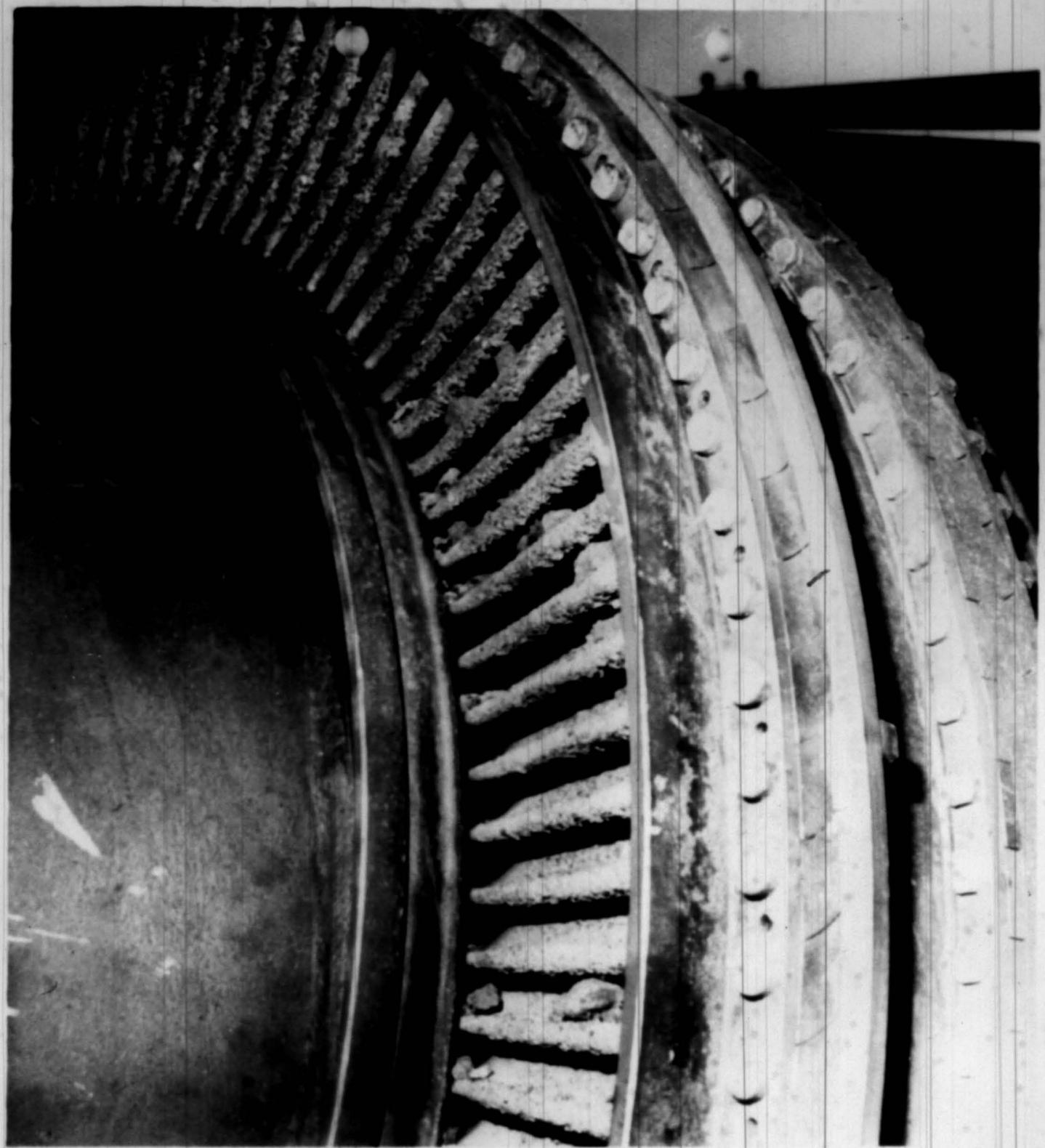
VA 112 AAR 3-66A
FRONT VIEW OF COMPRESSOR SECTION OF J65 ENGINE SER 612332 AT CRASH SITE. SEE ENCLOSURE (8) FOR LOCATION FROM CENTER OF CRASH DEPRESSION.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARA 66 OF OPNAVINST 3750.6E

VA 112 AAR 3-66A

REAR VIEW OF TAIL PIPE OF J65 ENGINE SER 612332 AT CRASH SITE. SEE ENCLOSURE (8) FOR LOCATION FROM CENTER OF CRASH DEPRESSION.

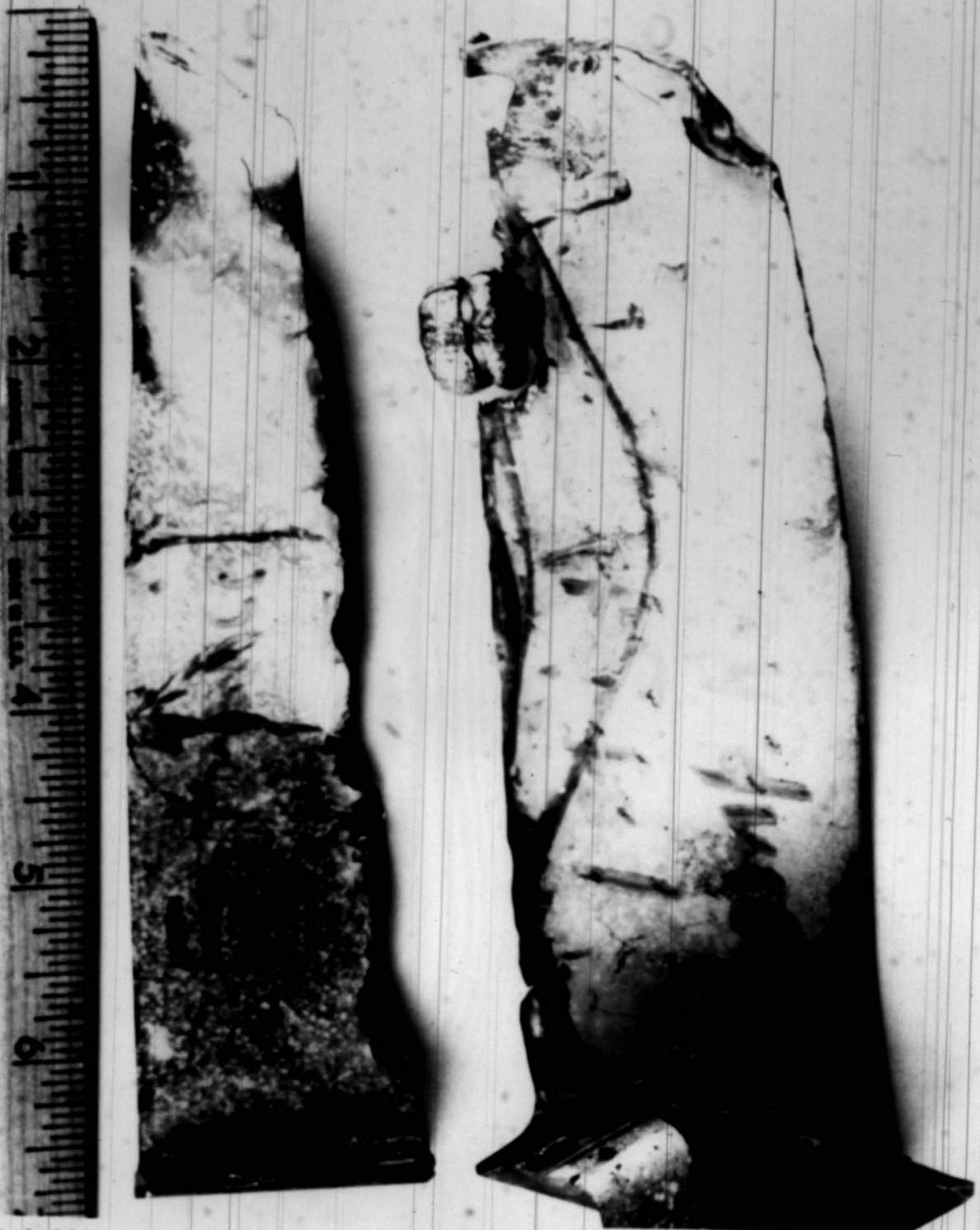
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARA 66 OF OPNAVINST 3750.6E



VA-112 AAR 3-66A
VIEW OF HEAVY METALIZATION ON FIRST STAGE TURBINE STATOR BLADES OF J65 ENGINE SER 612332.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARA 66 OF OPNAVINST 3750.6E.

ENCLOSURE (1A)



VA-112 AAR 3-66A

VIEW OF J65 ENGINE ENTRANCE GUIDE VANE & 1ST STAGE COMPRESSOR BLADE SHOWING POSSIBLE INITIAL IMPACT POINT OF FOREIGN OBJECT.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARA 66 OF OPNAVINST 3750.6E

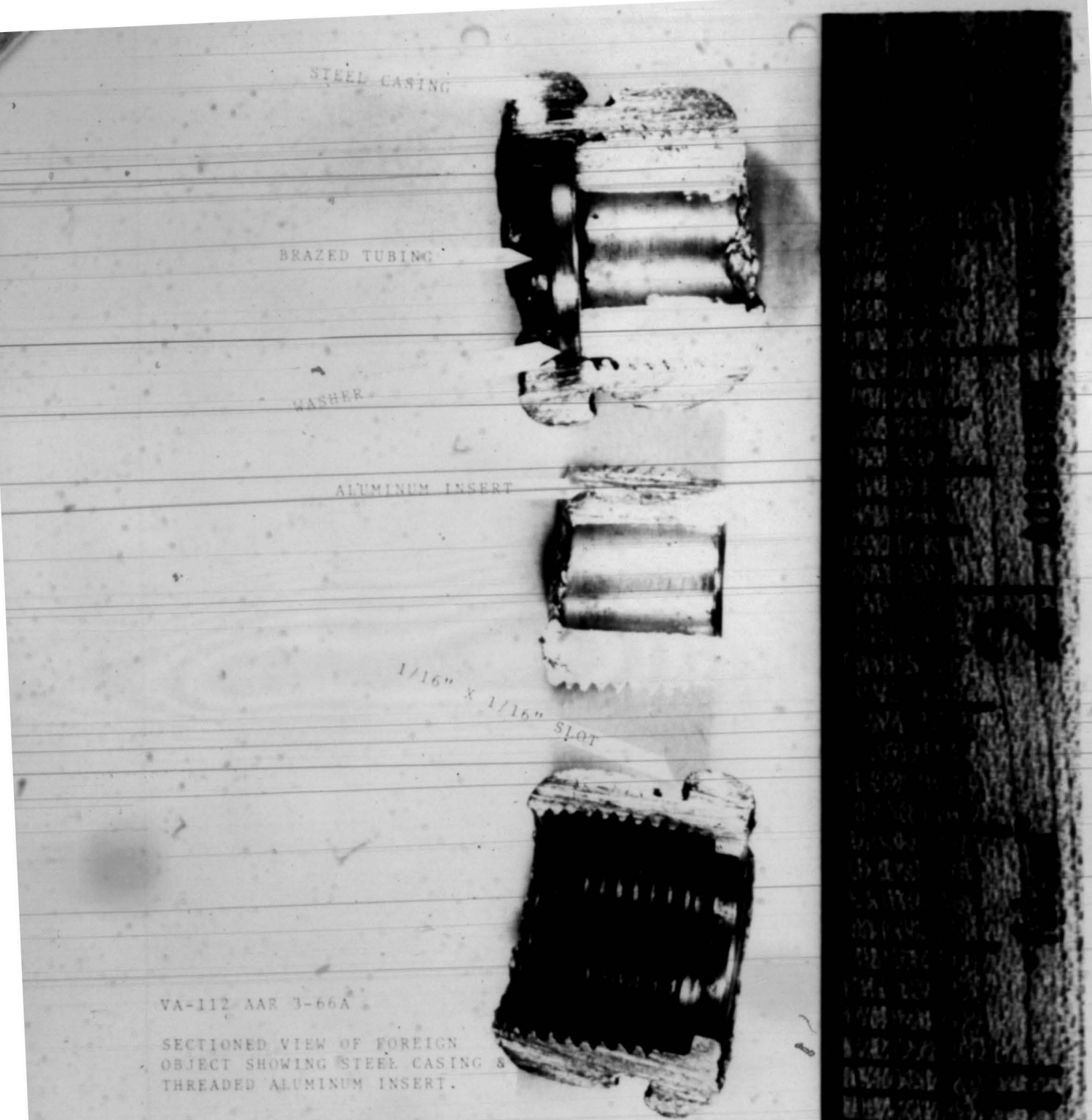
ENCLOSURE (11E)

VA-112 AAR 3-66A

VIEW OF FOREIGN OBJECT SHOWING EXCESSIVE PEENING CAUSED BY ROTATIONAL DAMAGE.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARA 66 OF OPNAVINST 3750.6E

ENCLOSURE (11F)



VA-112 AAR 3-66A

SECTIONED VIEW OF FOREIGN OBJECT SHOWING STEEL CASING & THREADED ALUMINUM INSERT.

MILITARY FLIGHT PLAN

VA-112 / NAS Lemoore, Calif

TYPE OF FLIGHT PLAN	RADIO CALL TO CODE	AIRCRAFT DESIGNATION	ESTIMATED [illegible]	DEPARTURE TIME
IFR ☒ DVFR ☐ VFR ☐ PVFR	NH 203	1 F-4 / B	420	2200

INITIAL CRUISING ALTITUDE	POINT OF DEPARTURE	STANDARD INSTRUMENT DEPARTURE: NAME AND NUMBER	TO
320	NAS Lemoore	Lemoore #2 Pistol Tran	Bakersfield

IFR	VFR	ROUTE OF FLIGHT	TO	ETE
✓		J-65 PMD, J-6 ABQ, J-72 TXO, ~~DO~~ ABI	Dyess AFB	02+45
			VR	

REMARKS

① TACAN ONLY ② Take-off with NH 204 and ~~① NH 204 WILL CANCEL IFR & Return to VNC at the refueling~~ refuel between BFL and PMD. when reaching FL 320.

MARSA

RANK/HONOR CODE	PERS/CARGO CODE

HOURS FUEL ON BOARD	DIST TO DESTN	ALTERNATE AIR FIELD	ETE TO ALTN	REQUEST CLEARANCE AFTER
0+30	1100	NR		

INST RATING	SIGNATURE OF PILOT IN COMMAND	SIGNATURE OF APPROVING AUTHORITY	DATE
Special	[signature]	(b) (6) [redacted]	8/12/66

CREW/PASSENGER LIST

DUTY	NAME AND INITIALS	GRADE	SERVICE NO.	ORGANIZATION AND LOCATION
PILOT IN COMMAND	~~[redacted]~~ ALVIS, JH	CDR	(b) (6) [redacted]	VA-112 / NAS Lemoore
P	(b) (6) [redacted]	LTJG	(b) (6) [redacted]	" "
	~~Bu NO 147714~~		~~NH 204~~	
	~~Standard~~			

PILOTS PREFLIGHT CHECKLIST

✓	NOTAMS	✓	AIRSPACE RESTRICTIONS	✓	AIRCRAFT/DESTINATION NAV AIDS
✓	WEATHER AND WINDS	✓	CHARTS, PUBLICATIONS, MAPS	✓	DD FORM 365F (Weight and Balance Clearance Form F)

DD [illegible] 175 PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARA 66 OF OPNAVINST 3750.6E
ENCLOSURE (12)

Statement of Mr. C. T. SKEEN, Cannon AFB Fire Chief, Concerning

AIRCRAFT ACCIDENT - 12 AUGUST 1966
NAVY A-4D SERIAL NO. 203

At 1758 hours, 12 August 1966 the fire department alarm room operator was notified by Cannon Tower over primary crash circuit that a Navy A-4D had crashed. Cannon Tower stated pilot had ejected and was in a field probably west of the crash site. The location of the crash site was given as G-4 on the Cannon AFB Grid map, which placed the crash in the vicinity of Melrose, New Mexico. The Assistant Chief's P/U and the O-11A crash truck responded immediately and arrived at the crash site shortly after the H-43B helicopter had evacuated the pilot. It was observed that one small fire was burning in the crater. The Melrose Municipal Fire Department put out the grass fire surrounding the point of impact. The A/C had made contact with the ground in grassland near an abandoned farm house approximately 4 miles north and 2 west of Melrose, New Mexico. The aircraft disintegrated on impact, and aircraft wreackage was scattered over an area approximately 900 feet long and 300 feet wide. The burned grass area was approximately 30 feet wide and 45 feet long.

Clifford T. Skeen

CLIFFORD T. SKEEN
Base Fire Chief

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 66 OF OPNAVINST 3750.6E

ENCLOSURE (13)

DAL325
00B218
PP RUWSAL
DE RUWJDAA0524 2250345
ZNR UUUUU
P 122030Z
FM DET 2 WARRC CANNON AFB NMEX
TO HQ ARRS ORLANDO AFB FLA
INFO RUWHEUA/HQ WARRC HAMILTON AFB
RUWJDAA/HQ 832 COMBATSUPPORT GP CANNON AFB NMEX
RUCIEUA/HQ MAC SCOTT AFB ILL
RUECM/HQ USN WASHINGTON DC
RUWSAL/CMDR NAS LEMOORA CALIF
RUEDHQA/HQ USAF WASHINGTON
BT
UNCLAS DET 2 WARRC 00197 12 AUG 66.D
FOR ARRS ARSCP, USAF AFXOPH, MAC MAOCOAT AND MCP

AIR FORCE CODE FOR EACH ITEM IS IN PARENS.

1. RCS: 1-ARS-F1, OPENING/CLOSING REPORT
2. DET 2 WARRC 2-12 AUG 66/D (Mission Number)
3. RECOVERED ONE PILOT EJECTED FROM USN A-4C (SAR Objective)
4. CANNON AFB BASE OPERATION 12 AUG 66 (Alerting Agency & date notified)
5. ONE HH-43B AT 1825 LOCAL (Type and time of initial SAR action)
6. 34-28N/104-18W (Location of incident)
7. VFR (Weather at time of incident)
8. CANNON AFB COMMAND POST (Controlling agency)
PAGE

PAGE 2 RUWJDAA0524 UNCLAS
9. CANNON AFB APPROACH CONTROL (Agency locating objective)
10. DET 2 AARRC HH-43B (Agency and method used to rescue survivors)
11. ONE SURVIVOR (Number of survivors)
12. ONE (Number of persons saved)
13. RETURNED TO CANNON AFB (Disposition of survivors)
14. ONE/30 MIN HH-43B CANNON AFB (Sorties/flying hrs by type aircraft)
15. FIVE VEHICLES/TEN GROUND PERSONNEL (No of vehicles/ground personnel used)
16. NONE (Additional information)
BT

ACT AO..........................DATE/TIME..........................Z

ODO..........................DATE/TIME..........................Z 13/0636Z

A/AA AD CM CR AT ASO (COPIES VA-112) 13/0636Z
NNNN

AUGUST 13 1966 RL PRIORITY/122030Z:

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARA 66 OPNAVINST 3750.6E

ENCLOSURE (14)

NNNNZCZCNASC249GB685CBE847
RR RUCKDG
DE RUWSAA 014 2522336
ZNR UUUUU
R 091948Z SEP 66
FM NAS ALAMEDA
TO RUWDAF/NAVAIRSYSCOMREPAC
INFO RUECM/NAVAIRSYSCOM
RUCKDG/NAVAVNSAFECEN NORVA
RUWJFNA/NWEF CIRTLAND AFB
RUWSAL/ATKRON ONE ONE TWO
RUWDAF/COMNAVAIRPAC
RUWDAF/CARAIRWING ELEVEN
ZEN/COMFAIRALAMEDA
RUEGUC/DCASO WOODRIDGE
RUEGFA/NATSF PHILA
RUEGPA/NAS QUONPT
BT

749/66

AAK

Suff

CO6: M and M

Corrected Copy

UNCLAS
FAILURE ANALYSIS J65-W16A ENGINE SERIAL 612332 FROM A--4CAIRCRAFT
BUNO &148567
A. YOUR 200045Z AUG NOTAL
B. ATKRON ONE ONE TWO AAR SER 3-66A
1. ENGINE RECEIVED IN MUTILATD CONDITION. SEVENTEEN FIRST STAGE

PAGE TWO RUWSAA 014 UNCLAS
COMPRESSOR ROTOR BLADES RECOVERED, TWENTY MISSING. ALL SECOND AND THIRD STAGE COMPRESSOR ROTOR BLADES RECOVERED. ALL FOURTH THROUGH SEVENTH STAGE COMPPRESSOR ROTOR ALUMINUM BLADES WIPED OUT. EIGHTH THROUGH THIRTEENTH ROTOR BLADES INTACT EXCEPT FOR ROTATIONAL DAMAGE. ELEVEN COMPRESSOR ENTRANCE GUIDE VANES RECOVERED. ALL HAD ROTATIONAL DAMAGE AT TRAILING EDGE. FIFTEEN FIRST STAGE COMPRESSOR STATOR BLADES RECOVERED. MOST OF REMAINING STAGES OF STATOR BLADES WERE RECOVERED. M ALL COMPRESSOR BLADES HAD IN-FLIGHT ROTATIONAL DAMAGE. ENGINE CONDITION INDICATED LITTLE OR ZERO RPM AT TIME OF IMPACT.
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EIGHT THREAD. A STEEL WASHER

PAGE THREE RUWSAA 014 UNCLA
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OBJECT
3. TURBINE ROTOR AND STATOR BLADES WERE HEAVILY COATED WITH ALUMINUM METALIZATION CAUSED FROM WIPEOUT OF ALUMINUM COMPRESSOR BLADES IN FLIGHT.
4. FRONT, CENTER, AND REAR MAIN ENGINE BEARINGS WERE SATISFACTORY EXCEPT FOR IMPACT DAMAGE.
5. CONCLUDE ENGINE FAILURE WAS CAUSED BY PRECEDING DESCRIBED FOREIGN OBJECT PENETRATING THROUGH ENGINE COMPRESSOR INLET CAUSING IN-FLIGHT COMPRESSOR FAILURE. SHOULD IDENTIFICATION OF FOREIGN OBJECT BE MADE AT A LATER DATE, A SUPPLEMENT TO THIS REPORT WILL BE INITIATED.
6. THIS COMPLETES ACTION ON YOUR CONTROL 3047-67.
BT

SEP
091948Z

A4C 148567 VA-112 3-66 8-12-66

#2044/66

cog: R/S
AI

NNNNOAC204DGA796VBA833
RR RUCKDG
DE RUWJFNA2034 2412117
ZNR UUUUU
R 292041Z AUG 66
FM CO USNWEF KIRTLAND AFB NMEX
IO RUWSAL/CO ATKRON ONE ONE TWO NAS LEMOORE CALIF
INFO RUCKDG/CMDR US NAVAL AVIATION SAFETY CENTER NAS NORFOLK VA
RUWDAK/COMDR ATTACK CARRIER AIR WING ONE ONE NAS MIRAMAR CALIF
BT
UNCLAS
VA 112 AAR 3-66A (OFFICIAL USE ONLY)
1. DIR OF POWER PLANT IN SUBJ ACCIDNET CONTINUING. SEVEN WORKING DAY EXTENSION REQUESTED. TIME EXTENSION CONSIDERED JUSTIFIABLE IN DETERMINING CAUSITIVE FACTORS OF ENGINE FAILURE. REQUEST REPLY ONLY IF NEGATIVE.
BT

A4C 148567 VA 112 3-66 8-12-66 2-292041Z

NNNNZCZC408DGB580CBH323
RR RUCKDG
DE RUWDAF 45B 2320045
ZNR UUUUU
R 200045Z AUG 66
FM NAVAIRSYSCOMREPAC
TO RUWJFNA/NWEF KIRTLAND AFB
RUWSAA/NAS ALAMEDA
INFO RUCKDG/NAVAVNSAFECEN
RUWSAL/ATKRON ONE ONE TWO
ZEN1/COMNAVAIRPAC
RUWJAA/EIGHT THREE TWO D ADIV, CANNON AFB
RUWDAK/COMCARAIRWING ELEVEN
RUWSAA/COMFAIRALAMEDA
BT
UNCLAS
J65 S/N 612332 ENGINE AND SUSPECT FAILED COMPONENTS
A. FONECON LCDR PORTER/FRR-335 ON 19 AUG 66
B. 832D ADIV CANNON AFB N MEX 181440Z
C. COMNAVAIRPAC/BWFRRPAC INST 4730.8A
1. NWEF KIRTLAND: REF A ADVISED REF B ENGINE AND SUSPECTED FAILED COMPONENTS OF VA-112 AAR SER 3-66A BEING FORWARDED YOUR ACTIVITY FFT NAS ALAMEDA APPROX 22 AUG. REQ MARK FOR PRIORITY DIR IAW REF C. ADYHIPDA. REFER NAVAIRSYSCOMREPAC CONTROL NR 3037-67.

PAGE TWO RUWDAF 45B UNCLAS
2. NAS ALAMEDA: REQ CONDUCT FAILURE ANALYSIS SUBJ ENGINE AND SUSPECT COMPONENTS IAW REF C. ADCON RESULTS. ABOVE CONTROL NR ASGND
BT

408/66

Cog M&M

A4C 148567 VA-112 3-66 8-12-66 299945

NNNN
ZC461XDGA929VBA655
RR RUCKDG
DE RUWJDAA1078 2302344
ZNR UUUUU
R 181440Z
FM 832D ADIV CANNON AFB NMEX
IO RUWDAF/BUWEPS FLT READ REP PAC NAS NORTH IS SANDIEGO CALIF
INFO RUCKDG/NAV AVIA SAF CTR NAS NORFOLK VA
RUWSAL/ATKRON ONE ONE TWO NAS LEMOORE CALIF
RUWDAK/CAR AIR WING ELEVEN NAS MIRAMAR CALIF
RUWSAA/NAS ALAMEDA ALAMEDA CALIF
RUWDAF/COM NAVAIR PAC NAS NORTH IS SANDIEGO CALIF
RUWSAA/COMMFAIR ALA NAS ALAMEDA ALAMEDA CALIF
RUWJFNA/NAVAL WEAPONS EVAL FACIL KIRTLAND AFB NMEX
BT
UNCLAS OS 08397 AUG 66. SENIOR MBR NAVY A/C ACCIDENT
BOARD SENDS.
PRIORITY DIR REQUEST.
A. OPNAV INST P3750.6E.
1. IN ACCORDANCE PARA 38B REF A REQ PRIORITY DIR J65 ENGINE
SER NO 612332 INVOLVED VA-112 AAR SER 3-66A.
2. ENGINE LOCATED CANNON AFB, CLOVIS NMEX.
3. PHOTOS, STATEMENTS PERTINENT TO ACCIDENT INVESTIGATION
TO BE FWD'D SEPARATE COVER.
BT

961/66

COGMAM

AUG

AHC 148567 VA-112 3-66 8-12 18/1440Z

NNNNDGB260VBA874
PP RUCKDG
DE RUWJFNA1148 2282359
ZNR UUUUU
P 162303Z
FM CO USNWEF KIRTLAND AFB ALBQ NMEX
TO RUWTFMA/COMMANDANT EIGHTH NAVAL DISTRICT NEW ORLEANS LA
RUWSC/COMMANDER ATTACK CARRIER AIR WING ELEVEN
RUWJDAA/CANNON AFB NMEX
RUWSC/ATTACK SQUADRON ONE ONE TWO
INFO RUCKDG/NAVAL AVIATION SAFETY CENTER NAVAL AIR STATION NORFOLK VA
BT
UNCLAS
AIRCRAFT ACCIDENT INVESTAGATION
A. CONEIGHT 160143Z
1. CDR (b) (6) , USN APPOINTED SR MBR ACCIDENT BOARD PER REF A TO INVESTIGATE VA-112 AAR SER 3-66A.
2. REQUEST LT (b) (6) CVW-11 FLT SURGEON/LCDR (b) (6) CVW-11 SAFETY OFFICER PROCEED ASAP CANNON AFB FOR INVESTIGATION AS ACCIDENT BOARD MEMBERS. ALSO REQUEST SVCS OF ENGINE/AIRFRAME REP.
3. FOR CANNON AFB, REQUEST BILLETING 5 OFFICERS, 3 ENL FOR ABOUT 3 DAYS PURSUANT TO INVESTIGATION. PLAN ARR CANNON 170930 LOCAL. PLAN

PAGE 2 RUWJFNA1148 UNCLAS
CONTACT CANNON SAFETY OFFICER 17 AUG FOR SUPPORT OF INVESTIGATION. REQMTS FOR VEHICULAR TRANSP INCLUDE TRIPS TO AND FROM SITE. HELO SERVICES, PHOTOGRAPHER, CLERICAL ASSISTANCE, AND ASSISTANCE IN INTERVIEW OF WITNESSES IF ANY ALSO POSSIBLE REQMT.
BT

NNNN

A4C 148567 VA-112 3-66 8-12-66

NNNNHSBEA
N
UJ&DGB857VBC558
PP RUCKDG
DE RUWTFMA7158 2280239
ZNR UUUUU
P R 160143Z AUG 66
FM COMEIGHT
TO RUWJFNA/NAVWEPEVACFAC KIRTLAND AFB ALBUQ NMEX
INFO RUWSC/COMATKCARAIRWING ELEVEN
RUWSC/ATKRON ONE ONE TWO
RUCKDG/NAVAL AVIATION SAFETY CENTER NORVA
RUWDAF/COMNAVAIRPAC
RUECM/NAVAIRSYSCOMHQ
RUWSAA/COMFAIRALAMEDA
RUCKDA/COMNAVAIRLANT
RUEGHF/CNARESTRA
RUECM/CHNAVMAT
RUWDKC/BUWEPSREP LONG BEACH
RUEGUC/BUWEPSREP WOODRIDGE NEW JERSEY
RUEGHL/NAS DAL TEX
BT
UNCLAS
AIRCRAFT ACCIDENT BOARD
A. COMATKCARAIRWING ELEVEN 151710Z
B. ATKRON ONE ONE TWO 130712Z (PASEP)
1. REQUEST YOU TAKE REF A FOR ACTION. REFERENCE B ALSO APPLIES.
DIRECT LIAISON AUTHORIZED WITH ALL ACTIVITIES CONCERNED.
BT

#67/66

Cog: AI

Avg.

A4C 148567 VA 112 3-65 8-17-66 1601432

#24

NNNNDGB685CBD851
PP RUCKDG
DE RUWDAK 238 2271710
ZNR UUUUU ZFD
P R 151710Z AUG 66
FM COMATKCARAIRWING ELEVEN
TO RUWTFMA/COMEIGHT
INFO RUCKDG/NAVAL AVIATION SAFETY CENTER
RUECM/CHNAVMAT
RUWDAF/COMNAVAIRPAC
RUCKDA/COMNAVAIRLANT
RUWSAA/COMFAIRALAMEDA
RUECM/NAVAIRSYSCOMHQ
RUEGHF/CNARESTRA
RUWJFNA/NWEF KIRTLAND AFB
RUEGHL/NAS DALLAS
RUWDKM/NAVPLANTREP LONG BEACH
RUEGUC/BUWEPSREP WOODRIDGE NEW JERSEY
RUWSAL/COMFAIRDET LEMOORE
RUWSAL/ATKRON ONE ONE TWO
BT
UNCLAS
AIRCRAFT ACCIDENT INVESTIGATION
A. OPNAVINST 3760.6E

#24

COG: Records
A.I.

PAGE TWO RUWDAK 238 UNCLAS
B. VA-112 130712Z AUG 66
C. MY 150241Z AUG 66
1. CANCEL MY 150241Z. REQUEST COMEIGHT ASSIGN RESPONSIBILITY FOR INVESTIGATION VA-112 AAR SER 3166A.
2. LCDR (b) (6) , CVW-11 SAFETY OFFICER, AND LT (b) (6) CVW-11 FLIGHT SURGEON AVAILABLE THROUGH VA-112 AT NAS LEMOORE FOR BOARD ASSIGNMENT.
BT

#06

AVC 148567 VA-112 3-CC 8-12-CC 151710Z

15 AUG 66 03 20z

DVPXDG0529CBH182
PP RUCKDG
DE RUWDAK 225 2270241
ZNR UUUUU
P R 150241Z AUG 66
FM COMATKCARAIRWING ELEVEN
TO RUWSAA/COMFAIRALAMEDA
INFO RUCKDG/NAVAVNSAFECEN
RUWDAF/COMNAVAIRPAC
RUECM/NAVAIRSYSCOMHQ
RUCKYJ/COMEIGHT
RUCKDA/COMNAVAIRLANT
RUEGHF/CNARESTRA
RUECM/CHNAVMAT
RUWDKC/BUWEPSREP LBEACH
RUEGUC/BUWEPSREP WOODRIDGE NEW JERSEY
RUWSAL/COMFAIRDET LEMOORE
RUWSAL/ATKRON ONE ONE TWO
BT
UNCLAS
AIRCRAFT ACCIDENT BOARD
A. OPNAVINST 3760.6E
B. VA-112 130712Z AUG 66 NOTAL
1. REQUEST CFAA ASSIGN RESPONSIBILITY FOR INVESTIGATION VA-112 AAR SER 3-66A.
2. LCDR [redacted], CVW-11 SAFETY OFFICER, AND LT [redacted], CVW-11 FLIGHT SURGEON, AVAILABLE AT NAS LEMOORE FOR BOARD ASSIGNMENT.
BT

NASC ___8___

Cog A I

1+m

12-66 Aug 150241Z

A4C 148567 VA-112 3-66 8-~~13~~ 12

DGB235 CBD023
PP RUCKDG
DE RUWSAL 009 2250709
ZNR UUUUU
P R 130712Z AUG 66
FM ATKRON ONE ONE TLO
TO RUECW/CNO
RUCKDG/NAVAL AVIATION SAFETY CENTER
RUWDAF/COMNAVAIRPAC
INFO RUECM/;NAVAIRSYSCOMHQ
RUCKYJ/COM EIIGHT
RUWDAK/COMATKCARAIRWING ONE ONE
RUWSAA/COMFAIRALAMEDA
RUCKDA/COMNAVAIRLANT
RUEGHF/CNARESTRA
RUECM/CHNAVMAT
RUWSC/READATKCARAIRWING FOUR
RUWDAK/READATKCARAIRWING ONE TWO
RUHLBP/CG FMFPAC
RUCKHD/CG FMFLANT
RUHLHL/CINCPACFLT
RUWDKC/BUWEPSREP LONG BEACH
RUEGUC/BUWEPSREP WOODRIDGE NEW JERSEY
RUECW/JAG

PAGE TWO RUWSAL 009 UNCLAS
RUWJABA/DIRECTOR AEROSPACE SAFTEY, NORTON AFB
BT
UNCLAS FOR OFFICIAL USE ONLY
PRELIMINARY & SUPPLEMENTARY MESSAGE REPORT OF AIRCRAFT ACCIDENT
A. OPNAVINST 3750.6E
1. A4C, 148567, ATKRON ONE ONE TWO, VA-112 SER 3-66A, ALVIS
2. FILED IFR NAS LEMOORE, CALIF TO DYESS AFB, TEXAS. 2.2 HRS TIME IN FLIGHT
3. 130057Z, 18 NM WEST OF CANNON AFT, NEW MEXICO. AIRCRAFT WRECKAGE LOCATED 20 NM NORTH OF CANNON AFB
4. ALFA DAMAGE

NASC

AAR

A4C 148567 VA 112 3-66 8-12-66 AUG 130712Z

5. AIRCRAFT CRUISING AT FL330, ALL INSTRUMENTS NORMAL. ENTERED AREA OF LIGHT PRECIPITATION AND TURBULENCE. PILOT HEARD SQUEAL ORIGINATING AFT OF COCKPIT, BUILDING IN INTENSITY FOR APPROX ONE MINUTE. FOLLOWED BY MILD, MUFFLED EXPLOSION SOUND W ICH SEEMED TO COME FROM NOSE AREA. EGT AND RPM INDICATED ZERO. EMERGENCY GENERATOR DEPLOYED AND GLIDING DESCENT MADE TO VFR CONDITIONS AT FL250. PILOT ATTEMTED AIRSTART AT FL200 AND 15,000 FEET, BOTH UNSUCCESSFUL. FUEL FLOW INDICATED 1500 PPH AFTER ENGINE FAILURE; NO CHANGE WITH THROTTLE MOVEMENT, INCLUDING OFF. PILOT IN CONTACT WITH ATC

PAGE TWO RUWSAL 009 UNCLAS
ENTIRE TIME. SUCCESSFUL EJECTION UTILIZING FACE CURTAIN AT 8,000 FEET, NORMAL SEQUENCE, SUSPECT EITHER AIR CONDITIONER TRUBINE FAILURE WITH FOD INGESTED IN ENGINE OR BEARING FAILURE. OIL PRESSURE STEADY AT 34 PSI PRIOR TO ENGINE FAILURE.
6. JOHN HUBBARD ALVIS, CDR, (b) (6) , USN, (b) (6) ,HACTIVE DUTY NO INJURY
7. WEATHER 25,000 FEET OVERCAST, 90 DEGREES, DEWPOINT UNK, VIS 20 MILES, WIND UNK
8. NO KNOWN OR SUSPEKIED MAINTENANCE OR INSPECTOR FACTORS
9. NECESSITY FOR DIR WILL BEE DETERMINED AFTER PRELIMINARY INVESTIGATION
10. ROCKET EJECTION SEAT UTILIZED, MK 86 MOD 0 HARNESS RELEASE, MK 0 MOD 1 CATAPULT EJECTION NORMAL IN ALL RESPECTS
11. NO INJURIES TO CIVILIAN PERSONNEL
12. PROPERTY DAMAGE TO OPEN CULTIVATED FIELD
13. ENGINE SER - UNK, SER NO. 612332
BT

NNN